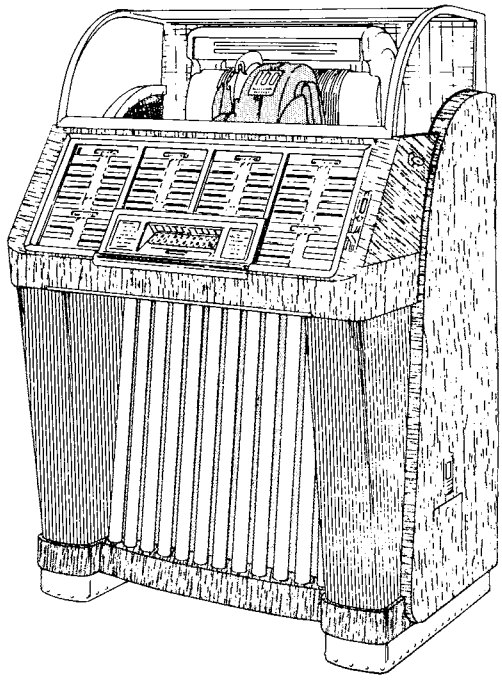
SEEBURG
SELECT-O-MATIC "100"
MODEL M100C



The Select-O-Matic "100", Model M100C, is a coin-operated phonograph using the Seeburg Select-O-Matic Mechanism for selective playing of either or both sides of fifty 45 r.p.m., 7-inch records. Choice of any of the one hundred selections may be made at the instrument with an Electrical Selector or by remote control with 100-selection 3-wire Wall-O-Matics. A program holder using standard size title strips displays the entire hundred selection program.

The program title strips are back-lighted by a 25-watt fluorescent lamp which also illuminates the mechanism, the speaker grille, and the electrical selector escutcheons.

A 20-watt fluorescent lamp is used in conjunction with a rotating color cylinder in each of the pilasters. The two color cylinders are given positive synchronization by coupling through gears and a single driving motor.

The cover glass through which the mechanism may be seen is hinged and opens for changing records and title strips. The cover is retained at any position of opening by a self-locking support rod. Service Switches, a Popularity Meter and a Selection Counter are accessible with the cover open. The Service Switches are used to operate the mechanism when servicing the instrument. The Popularity Meter which is a part of the mechanism indicates the number of times (up to 50) each record is played. The Selection Counter which is part of the Electrical Selector totals the number of selections made with the Electrical Selector and with remote control Wall-O-Matics.

Coins are deposited in a single entry coin chute and pass through a 5-,10-,25-cent slug rejector to the coin switches. The coin switches are connected for one play for a nickel, two plays for a ten-cent piece or six plays for a quarter. The coins are stored in a canvas bag which has a capacity of approximately one-hundred fifty dollars. The bag is removed through a small door at the lower right side of the cabinet.

A Seeburg Magnetic Pickup with one-quarter ounce stylus pressure assures long record life and high quality reproduction unaffected by temperature or humidity conditions. A 25-watt amplifier connects to a 15" dynamic speaker in the cabinet and to remote speakers. The amplifier incorporates an automatic volume compensator to provide uniform volume level and avoid "blasting" due to "loud" records. A single volume

control is used to adjust the volume of sound from the phonograph speaker and the remote speakers. Provision has been made for plug-in connection of a remote volume control that may be up to a hundred feet from the Select-O-Matic without introducing hum or causing distortion.

A selection Receiver supplies power for remote control Wall-O-Matics and incorporates the switches and relays for operation from remote points as well as from the Electrical Selector. It is equipped with convenient sockets for plug-in connections of the mechanism, cabinet lighting, amplifier, and control circuits.

The selection receiver and the amplifier are mounted in a vertical position on the inside of the cabinet rear door. The door may be opened for access to the tubes and fuses or it may be fully removed. The units are fastened over an opening which is covered by a steel plate. The plate, which is held in place with wing nuts, may be removed to expose the tube socket and plug connections and the interior wiring of the units for test during normal operation.

A selection cancel switch, effective only when a record is playing, is operated by a small, inconspicuous button on the back near the left side of the cabinet. A remote cancel switch or button may be substituted by plug-in connection to the selection receiver.

SPECIFICATIONS

Power Requirements:

117 volts A.C., 60 cycles

Standby (without Wall-O-Matics) - 140 watts

Operating (without Wall-O-Matics) - 280 watts

Cabinet Lighting:

1 - 25-watt, 33-inch, Daylight Fluorescent (FS25 Starter.)

2 - 20-watt, 24-inch, Daylight Fluorescent (FS2 or FS-25 Starter.)

Cabinet Key Number..... G245

Record Capacity..... 50 records (100 selections)

Record Type..... 45 rpm
7-inch diameter, 1.5-inch center hole.

Pickup..... Seeburg Magnetic

Speaker..... 15" Electro-dynamic

Finish: Limed Oak and Walnut Plastic Veneer.

Coin Equipment:.....5-,10-,25-cent Single Entry Slug Rejector.

Amplifier:

8-tube Constant Voltage Type with Automatic Volume Compensation.

Audio Power Output (at full volume):

To Phonograph Speaker (adjustable)..... .....1/4 to 16 watts

To Remote Speakers..... 24 watts, max.

Maximum total to Phonograph Speaker & Remote Speakers.....25 watts

Major Component Assemblies:

Type 145S7-L6 Select-O-Matic Mechanism with
Type 100SA6-L6 Selector Assembly
Type ES8-L6 Electrical Selector
Type MRA3-L6 Master Remote Amplifier
Type WSR5-L6 Wired Selection Receiver

Remote Control:

Type..... Seeburg, 3-wire "Wall-O-Matic 100"

Nominal operating voltage..... 25

Power source for Wall-O-Matics..... Selection Receiver or Aux. Power Supply (Type PS6-1Z)

Maximum Number of Wall-O-Matics powered by Selection Receiver..... 6

Maximum Number of Wall-O-Matics powered by each Aux. Power Supply..... 6

Remote Speakers: CV (Constant Voltage) or RS

Tubes:

1 - 6J7
1 - 6SN7GT
1 - 6SK7
2 - 6SL7GT
2 - 6L6G
1 - 5U4G
1 - 2050

Fuses:

1 - 5 amp. 3AG
1 - 3 amp. 3AG
2 - 2 amp. 3AG SLO-BLO
1 - 3 amp. Fustat

Dimensions:

Height..... 54 Inches
Width..... 35 Inches
Depth..... 26 Inches
Net Weight..... 305 Pounds
Shipping Weight..... 385 Pounds
Record Weight, 50 Records, approx. ..... 3 Pounds

INSTALLATION AND OPERATION

DAMAGE CAUSED BY SHIPPING

Examine the instrument immediately after unboxing. If any damage is found, notify the transportation representative and get his signature on the transportation bill with notation of damage.

UNBLOCKING

Before placing this phonograph into operation it is necessary to remove or loosen certain shipping hardware used to safeguard the mechanism during transit. Carefully follow instructions on the tags found in several places in the instrument and remove blocks and shipping supports accordingly. CAUTION: Do not attempt mechanism operation by manually turning the flywheel – this may damage the mechanism. Use the service switches!

DO NOT PUT PACKING BLOCKS, INSTRUCTION CARDS, OR ANY OTHER MATERIAL ON THE AIR INTAKE SCREEN IN THE FLOOR OF THE CABINET, AS THIS WILL OBSTRUCT VENTILATION AND CAUSE OVERHEATING. SUCH OVERHEATING MAY WARP RECORDS AND SHORTEN THE LIFE OF THE EQUIPMENT.

ELECTRONIC EQUIPMENT

The electronic equipment is mounted on the lower rear door. This door is hinged and can be swung out to permit access to coin equipment and to tubes, tone controls, plugs, etc., on the front of the electronic equipment. The cover plate on the rear of the electronic equipment can be removed by unscrewing three thumb nuts and loosening the screw at the lower center of the plate. (NOTE: It is not necessary to remove this screw.) The electronic equipment may be completely serviced while the phonograph is operating without removing it from the cabinet. Normally the opening of the lower rear door is limited by a chain. The chain can be unhooked and, if plugs at the upper end of the chassis are removed, the door can be swung open until it rests on the floor. The entire door can also be removed by removing all plugs and unhooking the chain, then lifting the assembly up and out toward the rear.

CABINET LID SUPPORT

The cabinet lid may be lifted to any required opening for access to the mechanism and the service switches. A notched support rod is attached to the lid and lifts with it. One of the notches in the rod hooks into and locks in a latch plate when the weight of the raised lid bears on it. A spring assures positive engagement of the rod by the latch plate and prevents accidental release by bumping or jarring. To lower the lid, it must first be lifted while pressing the support rod toward the back of the cabinet.

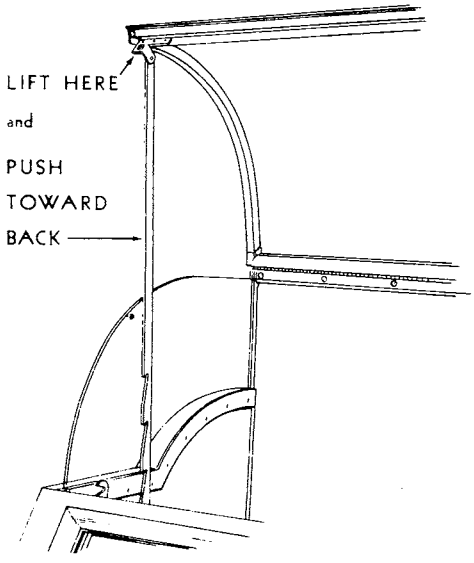


Figure 2.

TUBES AND PLUGS

This instrument is shipped with tubes and plugs installed. In shipment they may loosen; for this reason, it is well to see that they are all firmly seated in the sockets before inserting the line cord.

VOLTAGE RATING

Before connecting the line cord to a light socket or outlet make certain that the voltage and frequency on the meter box at the location agree with the markings of voltage and frequency on the instrument name plate.

PLACING THE SELECT-O-MATIC "100"

To obtain best performance and long service from this equipment, it should be placed on a

firm, reasonably level surface away from excessive moisture and heat.

WARNING: To prevent warping records place phonograph where the records will not at any time be exposed to direct sunlight or any other radiant heat. Do not reduce ventilation by obstructing the vent screens.

A space of at least two inches must be allowed between the back of the cabinet and the wall, so as to assure adequate ventilation.

SERVICE SWITCHES

Two service switches are located in the mechanism compartment, on the left side, below the mechanism support bracket. The two-position toggle switch toward the back controls the mechanism motor. The spring return toggle switch toward the front scans the carriage. When the motor switch lever is set toward the front, the mechanism will not operate even though selections are "set up" on the Selector Assembly. The motor switch lever must be toward the back for normal operation. The scan switch lever, when held toward the front, causes the carriage to scan past selections which may be set up on the Selector Assembly. The scan switch can be used to move the carriage when the motor switch is in its "off" position.

LOADING RECORDS

To obtain satisfactory performance use only new or nearly new records on the Select-O-Matic "100" Mechanism. Arrange the records so that the most popular tunes will be divided between odd and even numbered selections. This will result in more nearly equal wear on the two styluses of the pickup. Any standard 7-inch commercial 45 rpm record may be used. Occasionally, records will be found that have an undersize center hole. This is caused, in some cases, by the paper label being pushed into the center hole. If the record center hole is undersize, such a defective record may stick on the record center pin.

Throw the main switch "on" (accessible through hole in rear door). Set the motor switch to the forward position; this keeps the carriage from operating even though credits are established on the Selector Assembly. (See Service Switches.) Hold the scanning switch in the forward position until the carriage is near the right hand end of base. Release the scanning switch.

Starting at the left end of the magazine (A-1, A-2), *insert one record in each record space.* The left side of all records will be the odd number selections. Thus A-1, A-5, B-7, C-3, D-1, etc., all will be left sides, and A-2, A-6, B-8, C-4, D-2, etc., will be right sides of records. *CAUTION: Do not force records into record spaces!* Any normal record will roll very freely into record spaces. A record which is warped badly enough to have any tendency to bind in the magazine space would not be properly played in any automatic mechanism and should not be used.

When the left half of the magazine has been loaded with records, scan the carriage to the left end of the base and load the right half of the magazine. *After the magazine has been loaded, set the lower service switch to the "down" position.*

PROGRAM HOLDERS

A complete set of title strips is provided with the instrument. These can be found in the cash bag. Title strips are loaded into program holders by sliding the strip into the desired slot. The record titles for both sides of a record are to be put on one individual double strip, with the title for left side on the upper half of the strip and the title for the right side on the lower half of the strip. Thus when a record is inserted in the magazine the selection corresponding to the top title will face left. The individual program holders can be removed separately as desired by hooking a finger under the top of the program holder and sliding it up out of the guides. CAUTION: Whenever program holders are to be removed or replaced, have the motor service switch lever in forward position. Spare Classification headings are provided and will be found in the cash bag. Classification headings can be changed in the program holder by sliding the retainer springs up onto adjoining ledges and replacing the classification heading.

AUDIO CONTROLS

The Master Remote Amplifier is equipped with a keyed volume control which is accessible through a hole in the rear door. It is inoperative when a remote volume control is used.

Bass and treble controls are located at the top of the amplifier panel and are accessible by opening the rear door. Room size and wall coverings determine the proper setting for each control. With typical records and location, very realistic reproduction is obtained by setting Bass on #2 or #3 and setting treble on #3. Treble boost is obtained on #4 and rather severe treble cut is had on #1.

AUTOMATIC VOLUME COMPENSATOR

An automatic volume compensator is incorporated in the amplifier. It compensates for the variations in the average volume levels of different records and makes possible a volume control setting for normal records without danger of blasting or high volume due to exceptionally "loud" records. A 4-position switch on the amplifier provides a choice of degree of volume compensation from zero (off) to maximum.

Operation of the compensator may be checked by removing the muting circuit plug from the amplifier while records are playing. Normal operation is indicated if, when the plug is taken out, the sound from a low volume record will fade almost completely away; that from a record of average volume will decrease in loudness. Little effect will be noted if a "loud" record is being played when the plug is pulled out. The change in volume, if any, will take place slowly, not suddenly when the muting plug is pulled out and replaced. Approximately six to eight seconds will be required to restore the volume to the original level after the plug is replaced.

POPULARITY METER

A popularity meter is provided behind the "Record Now Playing" indicator at the top of the magazine. It is exposed to view by swinging the cover downward past the front of the "Record Now Playing" indicator. The popularity of each of the fifty records is indicated by 50 indicator wheels. Each wheel is calibrated from 0 to 50 and shows approximate total number of plays (both sides) the corresponding record has had.

For a quick check of record popularity, the indicating wheels are part blue and part aluminum finish. Less than 10 plays are shown in the blue area while 11 or more are indicated in the aluminum area.

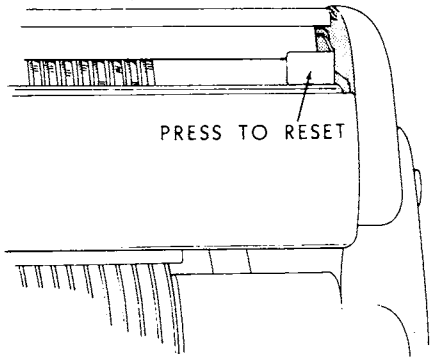


Figure 3.

To Reset the Popularity Meter

The lever at the right hand end of the meter partially resets the wheels each time it is pressed and released. It should be operated until all the wheels indicate zero.

SELECTION COUNTER

A selection counter is built into the left side of the electrical selector. This counter totals SELECTIONS made from the electrical selector and Wall-O-Matics. The counter may be read by lifting the lefthand title holder as shown in Figure 4.

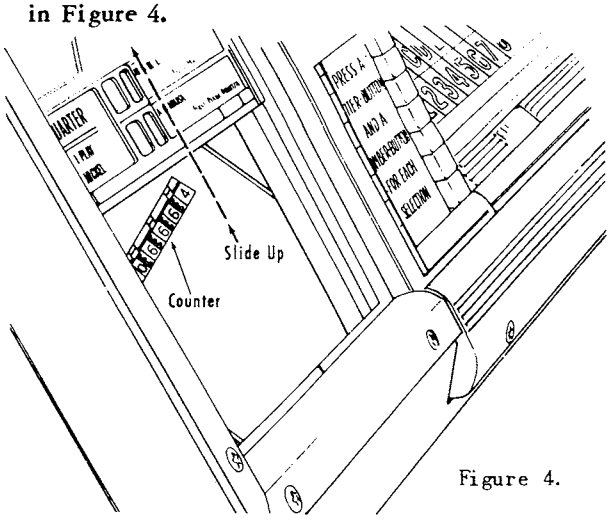


Figure 4.

Although this counter is intended primarily as a selection counter, the approximate total value of coins received in the phonograph and Wall-O-Matic cash boxes may be figured as follows (Assuming six plays for a quarter):

1. Subtract the present counter reading from the last reading. (The reading taken when the cash boxes were last emptied.)
2. From this figure subtract the total number of quarters in all cash boxes (phonograph plus all connected Wall-O-Matics.)
3. Multiply by .05 to obtain value in dollars.

EXAMPLE:

Present counter reading	11792
Last counter reading	10680
Difference	1112
Number of quarters	78
	1034
	x.05
Approximate cash	$51.70

WALL-O-MATIC "100"

The remote choice of 100 selections is made possible by the Wall-O-Matic "100" which pulses the Selection Receiver to register selections on the Select-O-Matic "100" Mechanism. A sufficient number of these units should be used and placed to provide convenient selections from all parts of the location.

Power to operate up to six Wall-O-Matics is available from the Wired Selection Receiver. When more than six Wall-O-Matics are used, additional power supplies (Type PS6-1Z are required. For each power supply that is added, six additional Wall-O-Matics may be used.

The wiring of the Wall-O-Matics is facilitated by the use of special cable, Seeburg Part No. 12015, which is available in continuous lengths as required. Details of wiring and installing the Wall-O-Matic "100" are included in the instruction folder shipped with each Wall-O-Matic "100".

Bar Bracket Assembly, Seeburg Part No. 500185, is available for rigidly mounting the Wall-O-Matic on bars, counters and tables.

SPEAKERS

The audio output of the Master-Remote Amplifier operates the large speaker mounted in the Select-O-Matic cabinet, and also terminates on the amplifier terminal board for powering remote speakers.

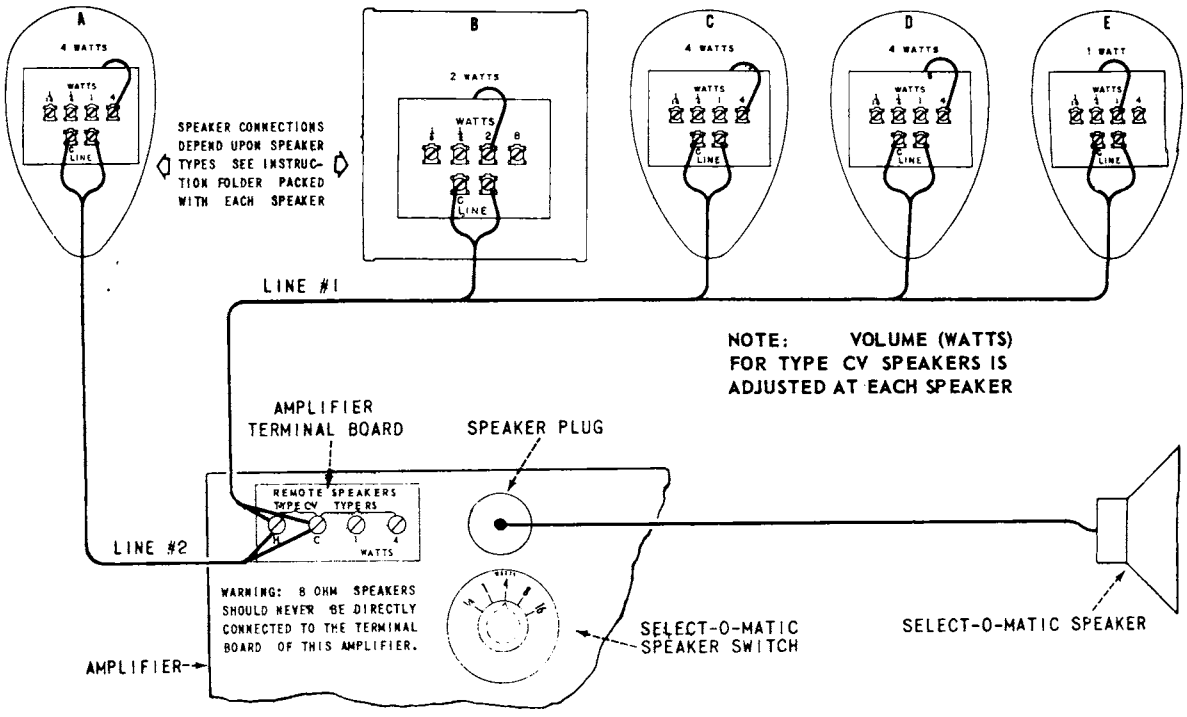


Figure 5. A Typical CV Speaker Installation

TOTAL WATTS OF SPEAKER LOAD

Line #1:	1 (Speaker)	x	2	(watts)	=	2.0 watts
	2 (Speakers)	x	4	(watts)	=	8.0 watts
	1 (Speaker)	x	1	(watts)	=	1.0 watts
Line #2:	1 (Speaker)	x	4	(watts)	=	4.0 watts
Select-O-Matic Speaker:					=	1.0 watts
				Total Load	=	16.0 watts

This is between 6 and 25 watts, and is a satisfactory amplifier load.

When a listening test was conducted on the above installation during typical operating periods, it was found necessary to increase the input to Speaker "B" to 8 watts.

The new speaker load on the amplifier:

Line #1:	1 (Speaker)	x	8	(watts)	=	8.0 watts
	2 (Speakers)	x	4	(watts)	=	8.0 watts
	1 (Speaker)	x	1	(watts)	=	1.0 watts
Line #2:	1 (Speaker)	x	4	(watts)	=	4.0 watts
Select-O-Matic Speaker						1.0 watts
				New Total	=	22.0 watts – Satisfactory Load

The audio system is of the "constant voltage" type, in which the amplifier output does not change when the speaker load is varied, This means that the volume from any speaker in the system will not change noticeably when other speakers are added or removed. It also facilitates adjustment of volume at each speaker; connections and speaker runs are simplified and, within certain limits, impedance matching problems are eliminated.

Except in very small locations, adequate distribution of sound at uniform level thruout the service area can be obtained only by careful placement of a sufficient number of speakers, and by adjusting the volume of the speakers individually to suit local conditions. The adjustment of the volume level at each speaker is simplified by the use of Seeburg Constant Voltage (CV) Speakers. While the older Type RS Speakers may be used with the Model M100C, the Type CV Speakers are recommended because the volume level (watts) can be adjusted at each speaker. *WARNING: 8 OHM SPEAKERS SHOULD NEVER BE CONNECTED DIRECTLY TO THE TERMINAL BOARD OF THE AMPLIFIER.*

Recommended Speaker Types are as follows:

Type CVS4-8, Wall Speaker (Teardrop - Ivory).

Type CVS5-12, Wall Speaker (Walnut Wood Cabinet).

Type CVS6-8, Recessed Speaker (Grill Type for wall or ceiling - Ivory).

Type CVS7-12, Recessed Speaker (Grill Type for wall or ceiling - Ivory).

All the above speakers can be connected for four different volume steps, from 1/16 watt to 4 watts for Type CVS4-8 and CVS6-8 and and from 1/8 watt to 8 watt for Types CVS5-12 and CVS7-12.

After the speakers have been mounted, one or more cables can be run from the phonograph, one cable for each group of speakers. The cable can be run from one speaker to the next, cutting the cable at each speaker and using the speaker terminals as junction points.

NOTE: For installation and wiring of the speakers, see instruction folder packed with each speaker.

Be sure that the phasing of all speakers is the same; this will be accomplished if the same wire of the speaker cable is connected to the common "C" terminal at all speakers. This wire

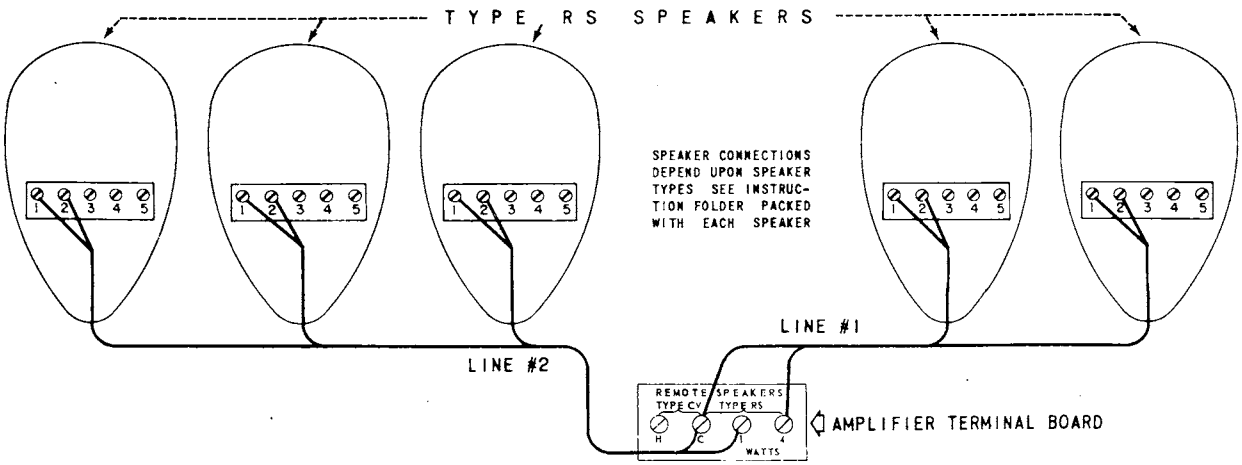


Figure 6. A Typical RS Speaker Installation

SPEAKER LOAD ON THE AMPLIFIER

Line #1:	2 (Speakers)	x	4	(watts)	=	8 watts
Line #2:	3 (Speakers)	x	1	(watts)	=	3 watts
Select-O-Matic Speaker					=	4 watts
				Total Load	=	15 watts

This is a satisfactory speaker load.

should be connected to the common "C" terminal at the amplifier. The other wire in the cable is connected to the "H" terminal at the amplifier when using Type CV speakers, as shown in Figure 5.

After the installation is finished, a critical listening test should be made and the volume (Watts) readjusted at certain speakers where required to obtain uniform sound coverage under normal noise conditions. The power consumed at each speaker will depend on the connections that have been made at the speaker (See Speaker Installation Folder.)

SELECT-O-MATIC SPEAKER

Set the Select-O-Matic Speaker Switch to the position which gives the best balance between the Select-O-Matic Speaker and theremote speakers with normal volume control setting. IF NO REMOTE SPEAKERS ARE USED, THE SWITCH MUST BE SET TO 16 WATTS.

The Wattage of all speakers must be added (including the Select-O-Matic Speaker) and the total watts absorbed by all speakers must not exceed 25 watts, which is the power rating of the Master-Remote amplifier. For best operation, the total watts should be not less than 6 watts (25% of rated amplifier load.) If Seeburg Type CV speakers are used, and the speaker load is 25% to 100% rated amplifier load (6 to 25 watts), no external impedance matching transformers are required. Within the limits described above, the problems of impedance matching are eliminated when using Type CV speakers on the MRA3-L6 Power Amplifier.

TYPE RS SPEAKER

If Type RS Speakers are used with the Select-O-Matic Model M100C, they may be wired as shown in Figure 6. Any group wired as shown may be connected to amplifier terminals "C" and 1 (watt) for 1 watt per speaker, or may be connected to terminals "C" and 4 (watts) for 4 watts per speaker. Set the SELECT-O-MATIC SPEAKER switch to the position which gives the best balance between the Select-O-Matic Speaker and the remote speakers with normal volume control setting. While this arrangement is not as flexible as the Type CV method, it does permit two or more groups of speakers at two different volume levels. When using the Type RS speakers, it is necessary to add the Watts of all speakers, including the Select-O-Matic Speaker, and make sure this total wattage does not exceed 25 watts, and is not less than-6 watts. NOTE: If the wattage of all speakers (including the Select-O-Matic Speaker) to be connected to the Master-Remote Amplifier exceeds 25 watts, an Auxiliary Remote Amplifier, Seeburg Type ARA1-L6, may be used to supply part of the speaker load, or lower volume (watts) may be used. When using CV type speakers on ARA1-L6, set the speaker matching plug to "2" and make connections to terminals marked "Speakers".

SPEAKER CONTROL TYPE NO. 25LT-1 (Accessory)

The speaker control is a housed adjustable autoformer that may be installed in any 70 volt CV speaker line for the purpose of separately controlling the volume from any single speaker or group of speakers. In installations involving speakers in several rooms these Speaker Controls are especially useful to obtain flexibility of control.

MASTER REMOTE VOLUME CONTROL, TYPE NO. MRVC-1 (Accessory)

The Master Remote Volume Control. Type MRVC-1 comes completely wired and ready for use. It is only necessary to remove the 7-prong dummy plug from the Master Remote Amplifier and the 2-prong Cancel Plug from the Wired Selection Receiver and replace with the corresponding plugs on the cable of the MRVC-1, and dress the cable to the permanent position selected for the control unit. Screws and cable clamps furnished with this kit make it easy to do a neat, workmanlike installation.

MICROPHONE PRE-AMPLIFIER AND MIXER, TYPE PAK1-L56 (Accessory)

The Microphone Pre-Amplifier and Mixer Kit, Type PAK1-L56, may be used with the Select-O-Matic Model M100C on any installation requiring the transmission of voice or live music thru the Seeburg Sound Distribution System.

TESTING

After the installation has been completed, all units should be carefully tested to see that they perform properly. Make several selections from the Electrical Selector and from each Wall-O-Matic and see that the selections made have correctly registered on the Selector Assembly. Check the quality of music, and note that music can be heard at a comfortable volume level in all parts of the service area. See that all cables are dressed into inconspicuous places to present a neat appearance and prevent mechanical damage to them.

REMOVING CARRIAGE COVER

The carriage cover must be removed for lubricating the mechanism, for servicing and for replacement of the lamp used to illuminate the escutcheon. It is removed as follows:

1. Select an odd number selection (F-1) to get pickup to the left side.
2. Cover the pickup cartridge with the plastic protective case.
3. Remove the top screw on the right hand brush holder and turn the holder until the brush is at the top.
4. Remove two oval head screws; one is on the top, and the other on the lower left side. Lift the cover straight up.
5. After replacing the lamp, carefully lower the cover over the carriage making sure the three notches at the bottom edge engage the three support studs on the carriage.
6. Fasten cover and brushes with their respective screws.

LUBRICATION

The mechanism and other mechanical parts should be lubricated periodically. Follow the lubrication chart posted on the back of the mechanism.

PICKUP STYLUSES

In order to retain good quality of reproduction it is necessary to keep the pickup and styluses clean and in good condition. *Caution: The pickup and styluses must be handled carefully or the delicate armature suspension may be damaged.*

When records are changed, or the equipment is cleaned the styluses and the stylus brushes should be cleaned by using the small brush furnished for this purpose and mounted in a clip on the left diffuser block.

STYLUS REPLACEMENT

The styluses used with the Seeburg magnetic pickup are tipped with natural Swiss sapphire, which is excelled in hardness and wear resistance only by diamond. However, all materials wear in the presence of friction; wear of a stylus starts with the first play and continues until the stylus is replaced. The tone quality is good and distortion remains at a low figure for the first few thousand plays but gradually distortion increases until a disagreeable amount is noticed.

When only pure vinylite 45 rpm records are used, styluses should be changed every four or five thousand plays to maintain good quality. If, because of the presence of oil on the records, dust or dirt is permitted to accumulate and remain on the surface, the wear will be more rapid; economical operation will require more frequent stylus replacement.

If the Styluses are not replaced before objectionable distortion sets in, the records may be permanently damaged, and replacing the Styluses will not restore the original tone quality.

Because the cost of a pair of styluses is only a small fraction of the cost of a set of records, it is economically sound to replace styluses on a regular schedule rather than on a hit-or-miss basis. A schedule can be most easily determined from instrument income. The styluses should be changed according to the following table if the records are arranged for approximately equal distribution of play between the right and left sides of the pickup:

Approximate Weekly Gross Receipts:	Change Both Styluses Every:
$ 25	4 months
$ 50	2 months
$ 75	6 weeks
$100	4 weeks
$150	3 weeks

The table is based on five cents per selection and four to five thousand plays for each stylus.

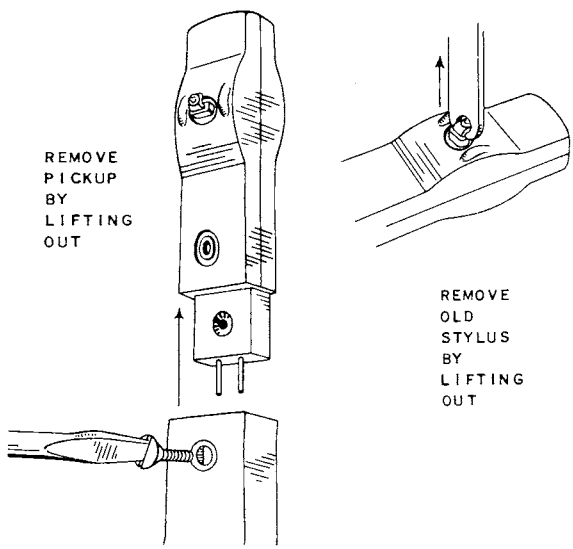


Figure 7.

To replace Styluses:

1. Remove the slotted-head screw at the top of the arm and remove the pickup by lifting straight up. Thread the screw into the pickup so as not to lose it.

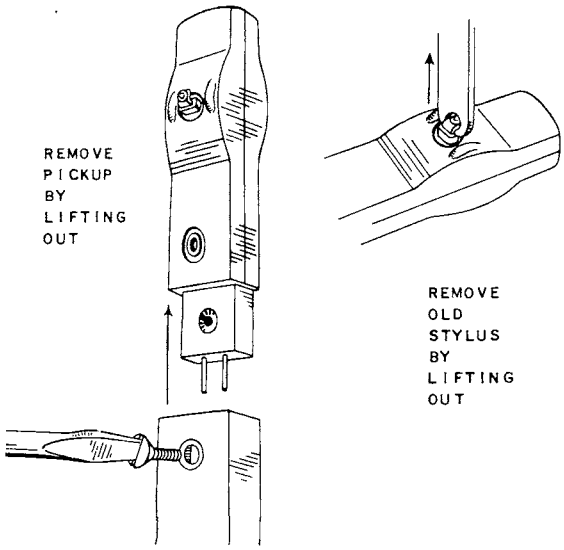


Figure 7.

2. Remove one of the installation tools (with new stylus) from the card and thread the old stylus through the hole in the rounded end of the tool. Lift out the old stylus by gently pulling STRAIGHT OUT. DO NOT USE A TWISTING MOTION OR MOVE THE STYLUS FROM SIDE TO SIDE – PULL STRAIGHT OUT.
3. Gently insert the new stylus - *DO NOT FORCE.* Slide the tool off the stylus.
4. Turn the pickup over and replace the other stylus in the same manner.

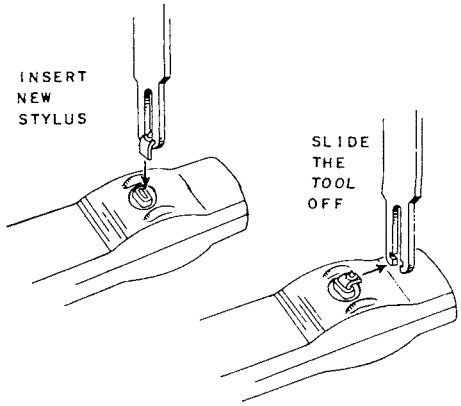


FIGURE 8.

Install the pickup on the arm after checking that styluses are installed to point in direction shown in Figure 9. Tighten the holding screw firmly – check landing adjustment. Also, check the stylus brushes to make sure that they wipe the styluses lightly to remove lint and dust.

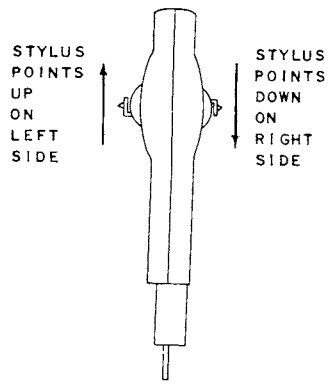


FIGURE 9.

RECORD CARE

To avoid accumulation of dust and dirt, keep oil off the records. Wipe your hands with a clean cloth before handling records and always handle records by edge and center hole. Records that show signs of surface dust or dirt should be wiped with a slightly dampened cloth, using a circular motion. Use only water to dampen the cloth – solvents will damage the records, Records not in use should be stored on edge in a cool place. Avoid exposing the records to excessive heat. Records become, overheated in a very short time if *exposed* to direct sunlight or if stored in a closed automobile or truck. Temperature above 120° F. should be avoided. See instructions on "Placing the Select-O-Matic "100".

LAMP REPLACEMENT

Access to the 25 watt (33 inch) fluorescent lamp or lamp starter is gained by first scanning the carriage to the left end. Remove the diffuser glass behind the program assembly and remove the right hand program holder. To remove the fluorescent lamp proceed as follows:

1. Rotate the lamp 90° in either direction and lift out of sockets.
2. Lower the left end of the lamp while raising the right end until the right end clears the diffuser glass block.
3. Lift the lamp out.

To replace the lamp behind the carriage cover escutcheon it is necessary to remove the cover as outlined in "Removing Carriage Cover".

To replace the *"Selection Now Playing" lamp* proceed as follows:

1. Select K-4 and while this record is in play position turn off the phonograph at the main switch. Swing the popularity meter cover down exposing the lamp assembly.
2. Loosen the screw which holds the light bracket to the top of the bakelite block. Slide the socket assembly to the right to clear the block. Lift out the lamp assembly.
3. Replace lamps and lightly fasten assembly in place with pigtail lug under screw head.
4. Turn on the main switch. Adjust the socket assembly by sliding the bracket to the left or right until a clean-cut rectangular window of light is centered on K-4. Tighten the screw and raise the cover to normal position.

The 20-watt, (24-inch) fluorescent lamps for pilaster lighting are part of assemblies which include the lamp starters and color cylinders. Each lamp is mounted on a removable strip which is accessible from the back of the cabinet. Electrical connection for the lamp and starter is made with an attachment plug and socket. A cone-shaped cup at the lower end of the assembly rests on a stud which is the upper part of a cabinet caster. The upper end of the assembly is held with a spring clip.

To replace a lamp, pull out the connecting plug and remove, from the cabinet, the entire lamp and color cylinder assembly. This can be done by pressing down on the spring clip and moving the upper end of the assembly toward the back of the cabinet. When the upper end is out of the pilsater, the entire assembly may be lifted from the cabinet. The upper end of the lamp is accessible for 90° rotation in either direction and withdrawal from the sockets.

When replacing the lamp and color cylinder, the cone-shaped cup at the bottom serves as a guide for that end as well as assuring correct centering and alignment of the cylinder drive gears. The spring clip at the top will snap into place for correct positioning of the upper end of the assembly.

PILASTER COLOR CYLINDERS

Maximum effectiveness of the color lighting of the pilasters requires balanced, upward flow of color. There is a "right" and a "left" color cylinder. Installing them in their respective positions will assure correct flow of color. They may be readily synchronized for balance by lifting one, slightly, to disengage the drive gear, and turning it until the color patterns on the two pilasters are matched.

APPEARANCE

To maintain good appearance of the phonograph, and thus keep customer appeal at its maximum level, the various pieces of glass (such as the lid, side glass, diffuser glass, and mirrors) should be kept clean. The chrome plated parts also should be cleaned occasionally. These parts include Electrical Selector, program holder, coin slot, and plated parts in the mechanism compartment.

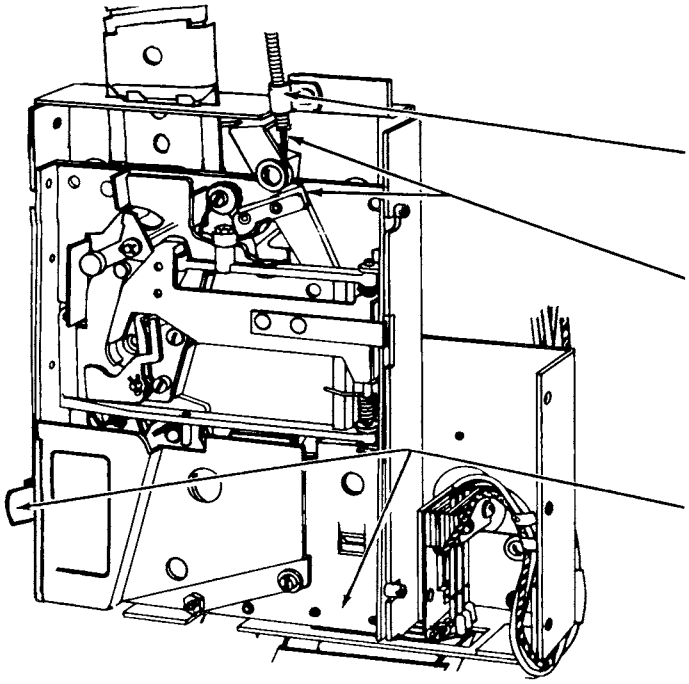
PREPARING INSTRUMENT FOR MOVING

1. Place protective tube over pickup cartridge and install Pickup Arm shipping support.
2. Remove all records from the magazine. Position carriage on base so that the selection indicator light is between A-5 and A-7. Put three pads under the carriage wheels; then bolt the carriage to the base by means of two 2-inch long thumb screws.
3. Put the two wood ¼" shims under the base at the mechanism hold-down bolts.
4. Tighten three mechanism hold-down nuts.

TO SHIP

If the instrument is to be shipped by way of a transportation company, it should be blocked and crated in the same manner in which it was received from the factory.

SLUG REJECTOR SCAVENGER CABLE



Adjust position of cable in clamp so plunger button at front of cabinet extends ¾".

The clamp should be positioned so the wire does not bind in the flexible cable.

End of wire should not touch surface of bracket on wiper blade.

Rejector should be held by spring clip and in mounting bracket at this corner.

Figure 10. Cable Adjustment

COIN SWITCHES

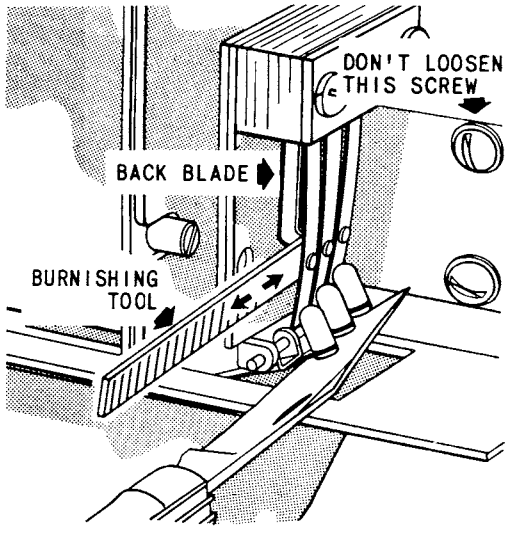


Figure 11. Coin Switch Cleaning

Clean the switch contacts carefully with carbon tetrachloride using a #2 camel hair brush.

Burnish by inserting a burnishing tool between the contacts, raising the switch lever with a knife blade as shown in Figure 11. *Never use a file or sandpaper for contact cleaning.*

DO NOT ATTEMPT ANY BENDING ADJUSTMENT IF THE SWITCH MEETS CONDITIONS OUTLINED ON FIGURES 12, 13 and 14.

1. Insert a dime at top of the slug rejector while supporting the switch actuating lever with a knife blade. The coin rests on the lever as shown in Figure 12.

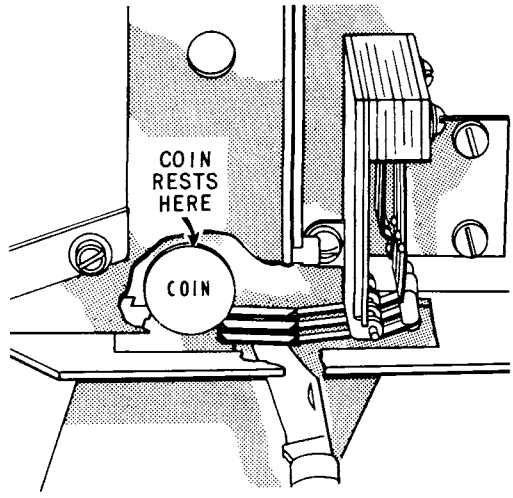


Figure 12. Coin Position

COIN SWITCHES *(Continued)*

2. Move the knife blade *slowly* to the right to release the coin. The contacts must come together and the back blade should move approximately 1/64" just before the coin drops through of its own weight. (See Figure 13).

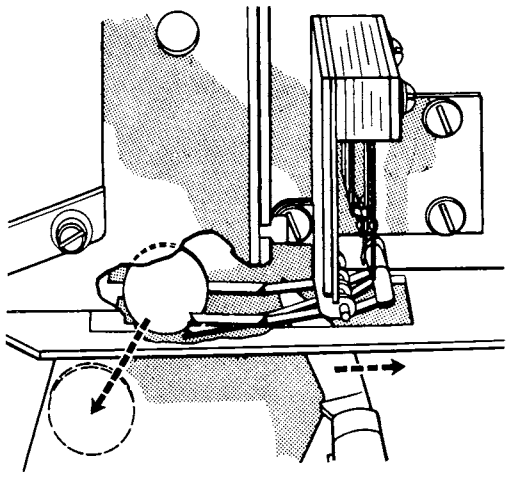


Figure 13. Coin Travel

The coin switch levers should be parallel with the opening in the gage plate and the center lever (10¢) should center on the projection of the gage as shown in Figure 14. Lateral play of the lever should be taken into account when checking the position of the 10¢ switch lever.

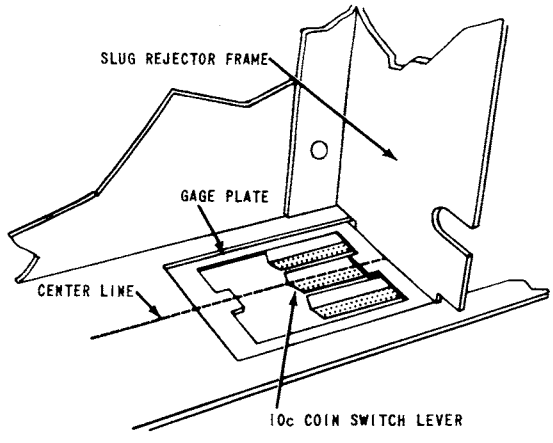


Figure 14. Coin Switch Lever Position

If the proper contact is not made or the coin does not drop through of its own weight adjustment should be made as outlined below.

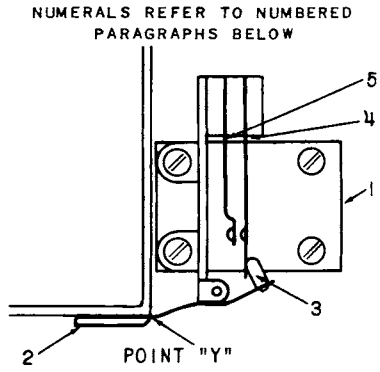


Figure 15. Coin Switch Adjustment

1. Adjust position of coin switch mounting so switch levers bear at point "Y".

2. Adjust levers to be parallel to and against bottom surface of frame.

3. Adjust switch actuating cams to be tilted approximately as shown and overlap the blade approximately 3/32".

4. Bend long blade at this point for 4 to 5 grams tension toward cam as measured at switch contact point.

5. Bend short blade at this point so it moves approximately 1/64" when coin is slowly released as in Figures 12 and 13.

NOTE: It is important that the ENDS of the bracer blades support the short contact blades support the short contact blades as shown in Figure 16.

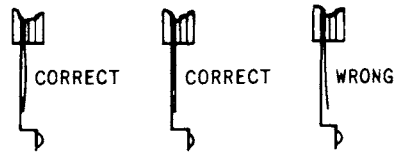


Figure 16. Bracer Blade Adjustment

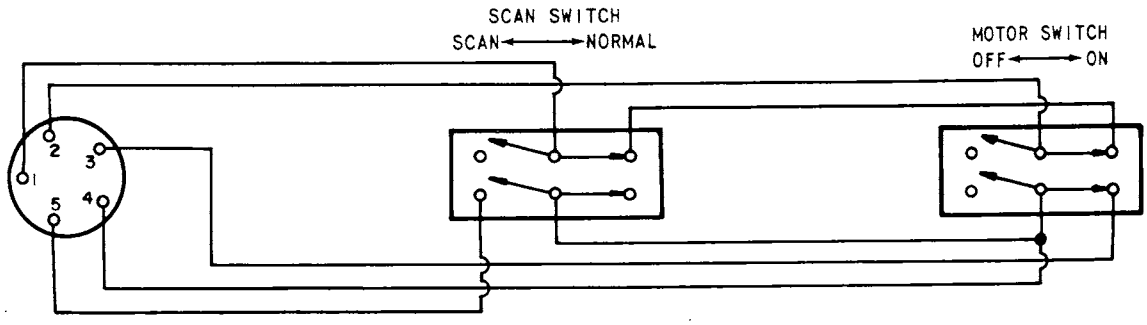


Figure 17. Schematic Diagram - Service Switches.

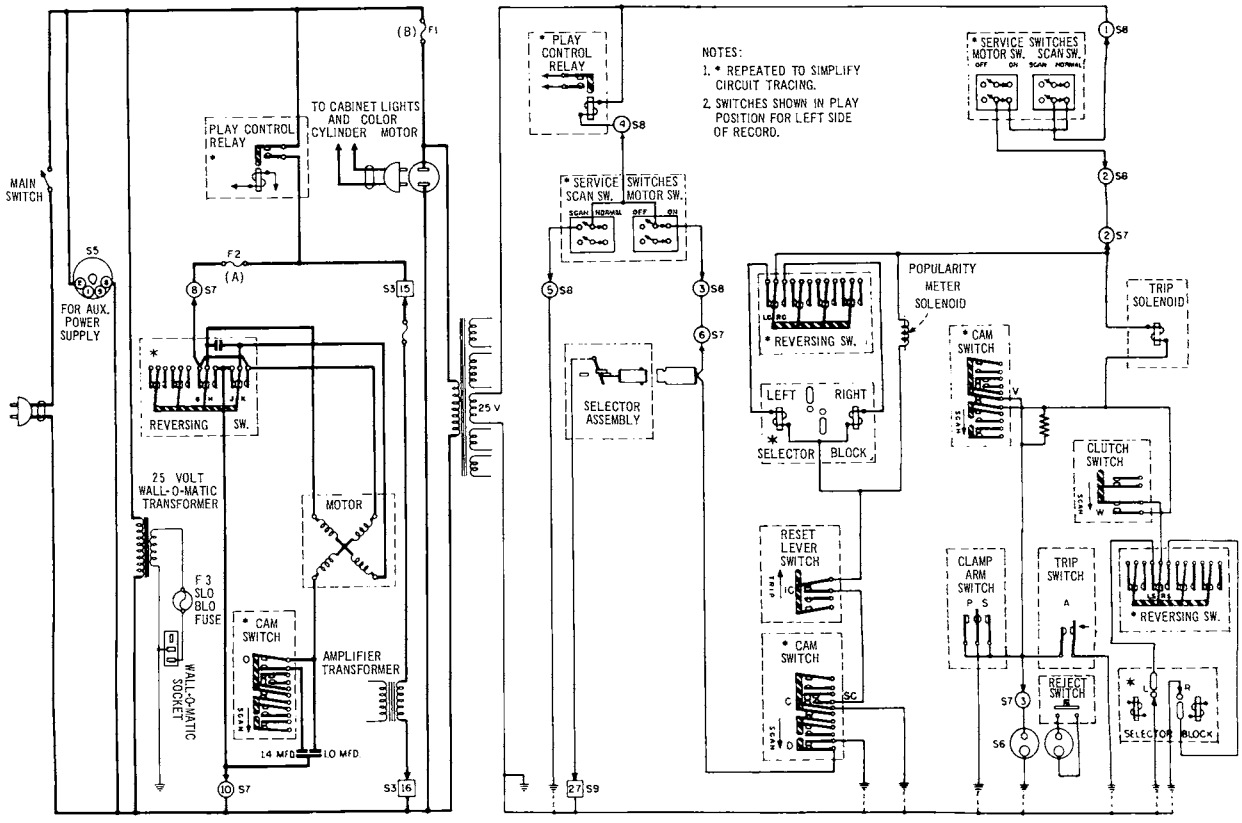


Figure 18. Schematic Diagram - Power & Control Wiring,
145S7 - L6 Mechanism & WSR 5 - L6 Selection Receiver.

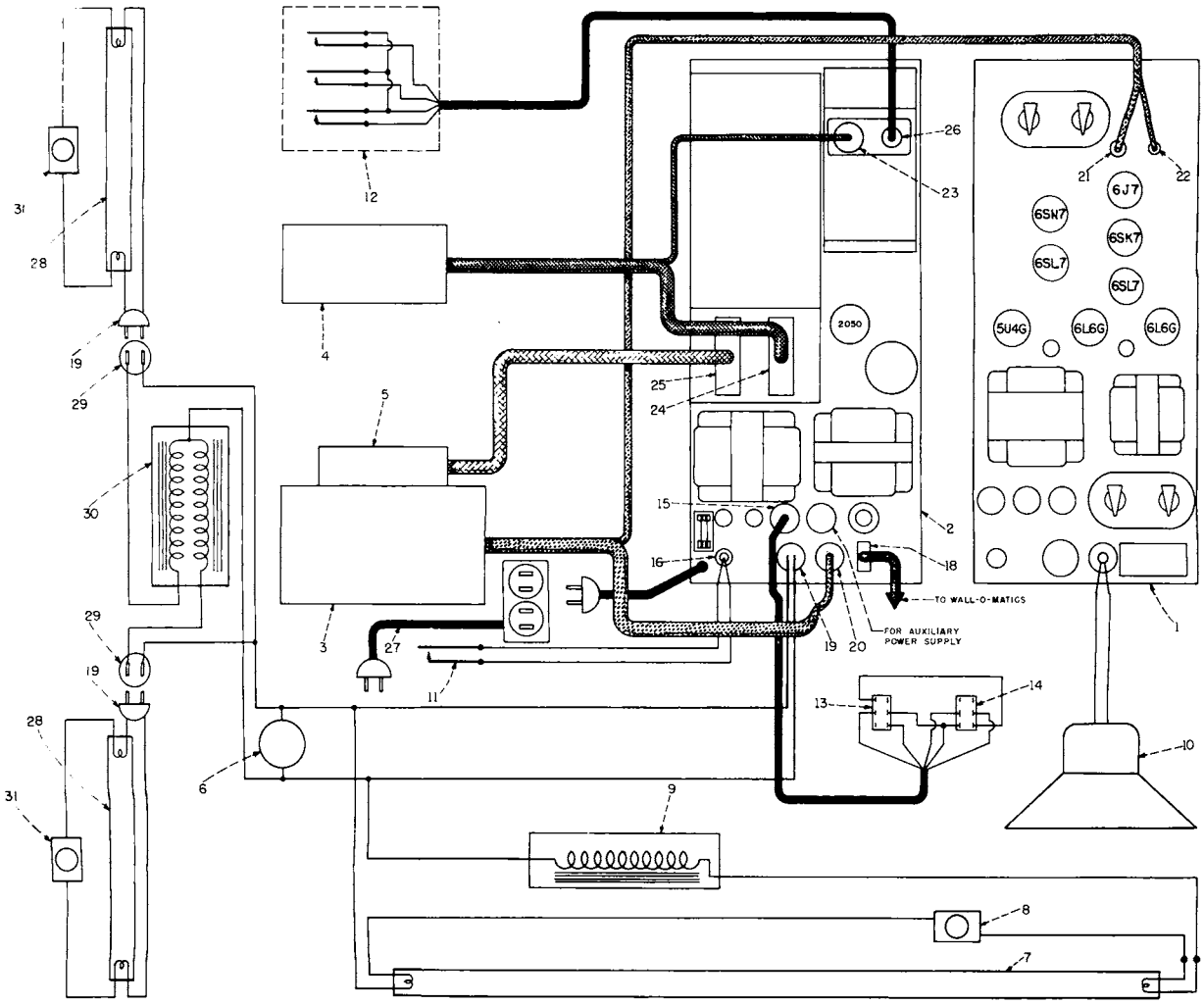
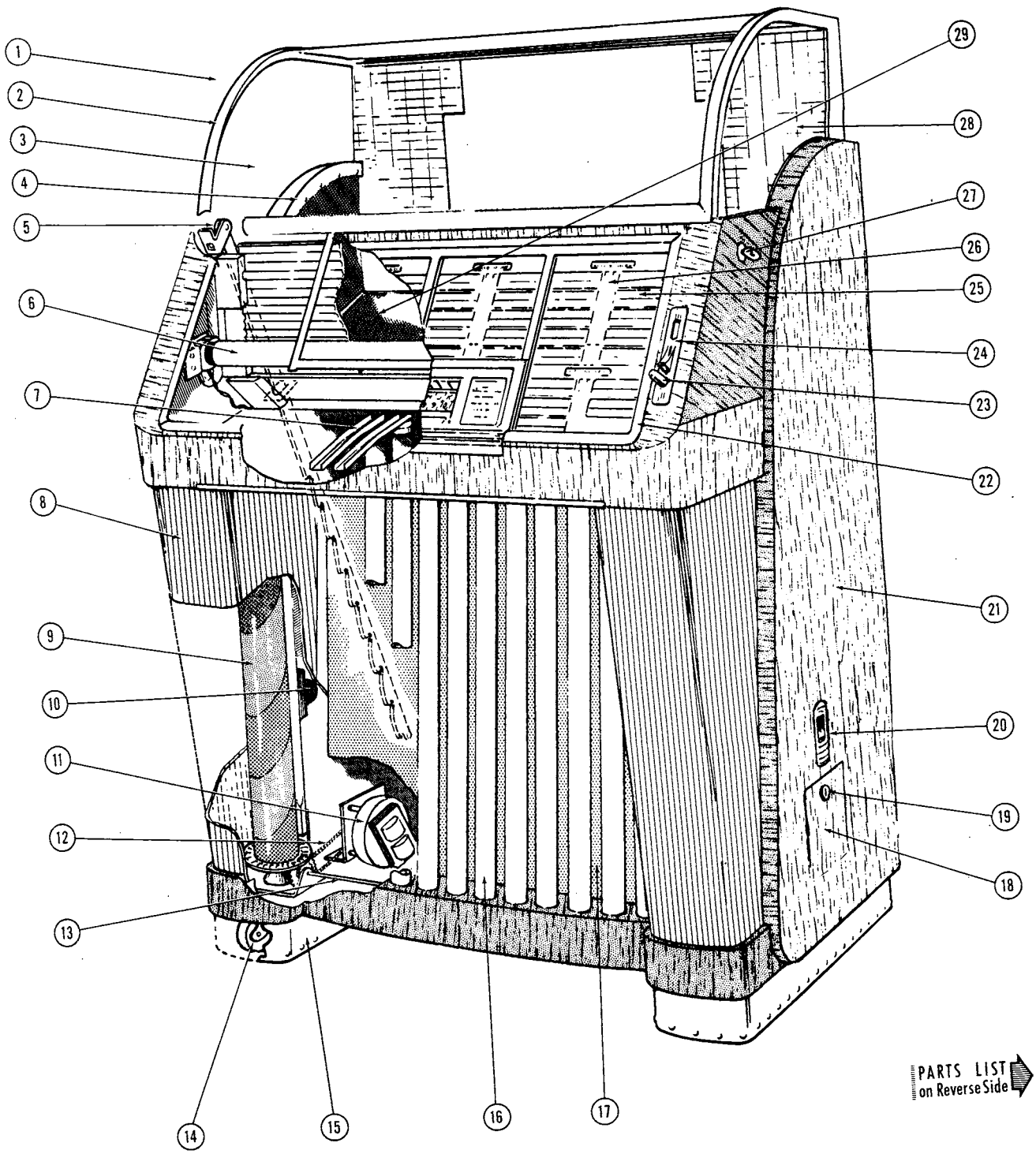


Figure 19. Cabinet Wiring Diagram.

PARTS LIST

Item	Part No.	Part Name
1	305100	Master Remote Amplifier, Type MRA3-L6
2	303230	Wired Selection Receiver, Type WSR-L6
3	245176	Select-O-Matic Mechanism, Type 145-S7-L6
4	410010	Electrical Selector, Type ES8-L6
5	304319	Selector Assembly, Type 100SA-6-L6
6	405524	Cylinder Motor
7	405136	25 Watt Fluorescent Daylight Lamp
8	405138	Starter
9	405101	Ballast
10	404550 404553	Speaker
11	402065	Record Reject Switch
12	401506	Coin Switches
13	404671	Scan Switch
14	23261	Motor Switch
15	200241	5-prong Plug
16	402066	2-prong Plug
18	12015	3-prong Plug
19	10895	AC Plug
20	250942	11-prong Plug
21	A250938	3-prong Plug
22	K228440	Single Prong Plug
23	12028	Octal Plug
24	400844	27-prong Connector
25	F9461	27-prong Plug
26	401515	4-prong Plug (Small)
27	402152	Line Cord and Outlet Assembly
28	405547	20 Watt Fluorescent Daylight Lamp
29	F7842	AC Socket
30	405546	2 Lamp Ballast
31	405138	Starter



PARTS LIST on Reverse Side

Figure 20. Front View - M 100C Cabinet Assembly.

PARTS LIST

(Preceding Page)

Item	Part No.	Part Name
1	405563	Cabinet Assem. (Less Mechanism, Elec. Equip., Speaker, Elec. Selector & Coin Equip.)
	405550	Cabinet Only
2	405648	Cabinet & Lid Assembly
	405521	Cabinet Lid Glass
	405534	Lid Hinge (71646 6/32 x ¼ Phillips F. H. Screw)
3	405522	Cabinet Side Glass
4	405776	Side Glass Retainer, R. H.
	405777	Side Glass Retainer, L. H.
5	405653	Lid Support Strap
6	405136	Fluorescent Light (25 Watt)
	405138	Fluorescent Starter (25 Watt)
	405549	Light Diffuser Glass
	405693	Program Light Cable Assembly
	405539	Light Socket Bracket
	404645	Light Socket
7	405523	Grille Tube
	405579	Grille Tube Support Bracket
	405678	Grille Tube Cap
	405677	Grille Tube Pad (Upper)
	405733	Fibre Washer
	76080	#6 x ½" Type "A" Phillips Sheet Metal Screw, Steel Cad.
8	405519	Pilaster - Optional
	405520	
9	405592	Cylinder & End Shell Assem., R. H.
	405737	Cylinder Sheet
	405526	Lower Cylinder End Shell
	405668	Felt Washer
	405527	Upper Cylinder End Shell
	8962	Snap Fastener
	405598	Cylinder Spring
	405689	Cylinder Upper End Shell Liner
	405593	Cylinder & End Shell Assem., L. H.
	405738	Cylinder Sheet
	405547	Fluorescent Tube (20 Watt)
10	405138	Fluorescent Starter
11	405785	Motor
	405794	Motor Mounting Plate
	405795	Motor Mounting Spacer
	76149	#8 x ½" Phillips R. H. S. T. Screw
12	405605	Sprocket Assembly
	75055	10-32 x ¼" S. H. C. P. Set Screw
	405528	Sprocket
	405525	Chain
13	405545	Cross Cylinder Drive
	405540	Shaft Bearing Bracket
	77239	#8 x 5/8 Phillips R. H. Wood Screw
14	402588	Caster
	405773	Caster Optional With 402588
	405774	Caster Socket
15	405569	Base Plate Covering
	83022	Tack (#9 Upholsterers)
16	405523	Grille Tube
17	405578	Grille Cloth
	405515	Grille Cloth Retainer
18	405565	Cash Box Door Assembly
	405554	Cash Box Door Only
19	405747	Cash Box Lock
20	4377	Slug Return Cup
21	405466	R. H. Limed Walnut Decalcomania
	405467	L. H. Limed Walnut Decalcomania
	405468	4 1/8"x 34" Limed Oak Decalcomania
	405469	2 5/8" x 49" Limed Walnut Decalcomania
	405474	34¼" x 49" Limed Oak Decalcomania
	405477	34¼" x 49" Limed Walnut Decalcomania
22	405581	Program Glass Retainer, Lower Left
	405582	Program Glass Retainer, Lower Right
	405584	Program Glass Retainer, L. H. Side
	405583	Program Glass Retainer, R. H. Side
	405061	Program Glass Retainer, Top
23	401637	Scavenger Wire & Plunger Assembly
24	405034	Coin Slot
	401627	Coin Slot Window
25	405114	Program Glass, Large
	405115	Program Glass, Small
	405130	Program Window Retainer, Side
	405112	Program Window Retainer, Center
26	405655	Program Holder Assembly (A1-B10 & J1-J10)
	405665	Price List Window
	405659	Number Strip A1-B10
	405660	Number Strip J1-J10
	405656	Program Holder Assembly (C1-D10)
	405661	Number Strip (C1-D10)
	405657	Program Holder Assembly (E1-F10)
	405662	Number Strip (E1-F10)
	405658	Program Holder Assembly (G1-H10 & K1-K10)
	405663	Number Strip (G1-H10)
	405664	Number Strip (K1-K10)
	405700 } 405715 }	Classification Headings (In Sets Only)
27	405585	Lid Lock, R. H., Key G245
	405586	Lid Lock, L. H., Key G245
28	405622	Mirror Assembly, R. H.
	405636	Flex-Glass Mirror, R. H.
	405623	Mirror Assembly, L. H.
	405637	Flex-Glass Mirror, L. H.
29	405718	Rear Panel Covering, R. H.
	405719	Rear Panel Covering, L. H.
	405777	Side Panel Covering, R. H.
	405607	Floor Covering
	405778	Side Panel Covering, L. H.
	405610	Rear Door Trim, Small
	405611	Rear Door Trim, Large
	405612	Cove Moulding, Side
	405613	Edge Moulding, Short
	405614	Edge Moulding, Long

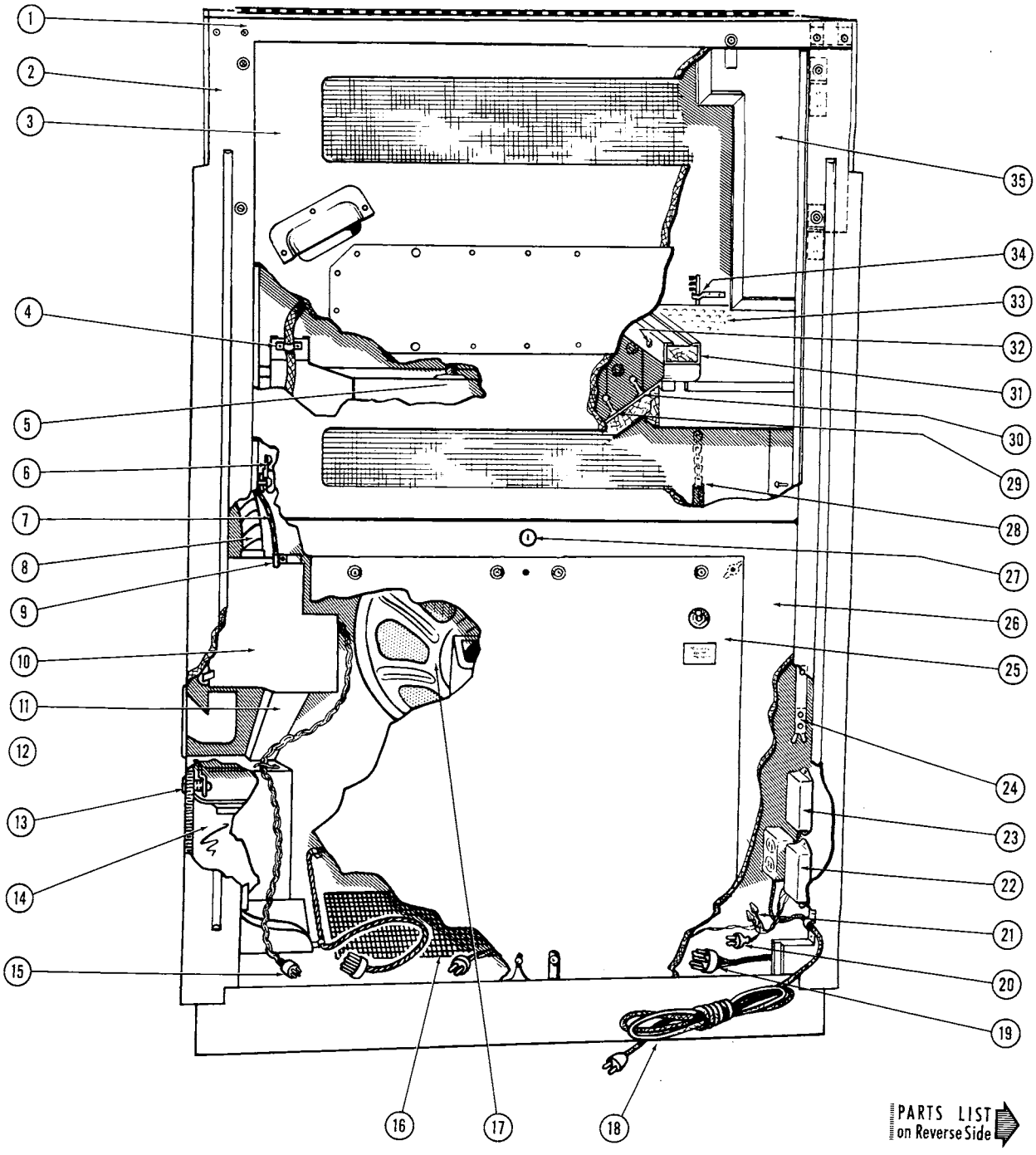


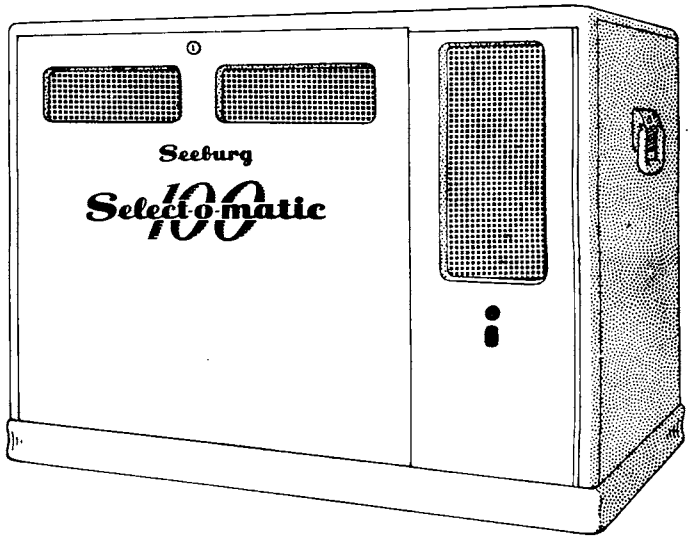
Figure 21. Rear View - M 100C Cabinet Assembly.

PARTS LIST

(Preceding Page)

Item	Part No.	Part Name
1	405516	Cabinet Hinge Rail
2	405517	Cabinet Rear Corner Bracket, L. H.
	405536	Cabinet Rear Corner Bracket, L. H. (Optional With 405517)
	405518	Cabinet Rear Corner Bracket, R. H.
	405537	Cabinet Rear Corner Bracket, R. H. (Optional With 405518)
	77232	#10 x ¾" Phillips Flat H. Wood Screw
	77233	#8 x ¾" Phillips Flat H. Wood Screw
	70634	8-32 x 3/8" Phillips R. H. M. Screw
	70645	8-32 x ½" Phillips Flat H. M. Screw
3	405570	Upper Rear Door Assembly
	405552	Upper Rear Door Only
	405571	Rear Door Cover Plate
	405447	Vent Screen Rear Door, Lower
	405572	Vent Screen Rear Door, Top
	405610	Rear Door Trim, Small
	405611	Rear Door Trim, Large
	405577	Handle
4	15037	Cable Clamp
5	405204	Rubber Grommet
6	404619	Upper Rear Door Clamp, R. H.
	404620	Upper Rear Door Clamp, L. H.
7	401639	Scavenger Wire Housing
8	401625	Coin Chute
9	402098	Cable Clamp
10	401620	Slug Rejector Mounting Frame Assem.
	401506	Coin Switch & Cable Assembly
	401304	Coin Switch
11	401298	Lower Coin Chute Assembly
12	4377	Slug Return Cup
13	405747	Cash Box Lock
14	404659	Cash Bag
15	401515	4-Prong Plug
16	405682	Floor Vent Screen
17	404550	Speaker
	405242	Speaker
	404553	Speaker
18	402152	Line Cord & Outlet Assembly
19	200241	Plug
20	402066	2-Prong Miniature Plug
21	404322	Wire Nut
22	405101	Fluorescent Light Ballast (25 Watt)
23	405546	Fluorescent Light Ballast (Dual 20 Watt)
24	402065	Record Reject Switch
	402064	Record Reject Pin
25	405257	Rear Door Cover Plate Assembly
26	405562	Lower Back Door Assembly
	405553	Lower Back Door Only
27	405735	Rear Door Lock, Key G 245
28	404672	Chain Assembly
	404673	Snap
	404674	Chain
29	404671	Scan Switch
30	23261	Motor Switch
31	405620	Channel & Pin Assembly
32	405196	Chassis Lock Pin
	405203	Retaining Ring
33	405606	Front Vent Screen
34	405219	Pickup Brush
	405220	Brush Holder
35	405622	Mirror Assembly, R. H.
	405623	Mirror Assembly, L. H.

SEEBURG SELECT-O-MATIC "100"
MODEL HM 100C



The Select-O-Matic "100" R.C. Special, Model HM 100C is for use in "hide-away" installations where the available space does not permit the use of the Model M 100C. It uses the Seeburg Select-O-Matic "100" Mechanism for selective playing of either or both sides of fifty 45 r.p.m., 7-inch records with 1½ inch center hole. Choice of any of the one hundred selections is made by remote control with the 100-selection, 3-wire Wall-O-Matics. Sound is distributed to the areas to be served by means of remote speakers connected to the Master-Remote Amplifier in the R.C. Special.

The cabinet is of wood, finished in grey wrinkle lacquer and is divided into two compartments. One compartment contains the Select-O-Matic "100" Mechanism, the other is used for the electronic equipment. Doors on the front and back provide access to the mechanism for record changing and service. Switches, which operate when the front door is opened, turn on service lights for illumination of the mechanism and connect a monitor speaker for checking records and amplifier operation. Two service switches are located in the mechanism compartment. One of these operates the mechanism motor when no selections have been made, the other may be used to stop the motor without cancelling existing selections. Unplayed selections and those made while the motor is turned off will be played when the switch is returned to normal position.

A Seeburg Magnetic Pickup assures long record life and high quality reproduction uneffected by temperature or humidity conditions. A 25-watt amplifier connects to the monitor speaker and to remote speakers. The amplifier incorporates an automatic volume compensator to provide uniform volume level and avoid "blasting" due to "loud" records. The volume of the sound from the remote speakers is controlled by means of a volume control which can be installed at any conveniently accessible place. The volume control is mounted in a small metal case which includes a push button for cancelling a playing selection.

A Selection Receiver incorporates the switches and relays for remote selection operation as well as the control circuits of the mechanism and provides power for up to six Wall-O-Matics. An Auxiliary Power Supply unit (furnished as standard equipment) provides power for operation of up to six additional Wall-O-Matics. The Selection Receiver and the furnished Power Supply Unit will, then, furnish power for up to twelve Wall-O-Matics. More than twelve Wall-O-Matics may be used by the addition of more auxiliary power supplies – one for each additional six Wall-O-Matics. The Selection Receiver is equipped with sockets for convenient plug-in connections for the mechanism, cabinet lights, amplifier, and control circuits. A Selection Counter is a part of the Receiver and totals the number of selections made from the Wall-O-Matics. It may be used to check the total of coins in the Wall-O-Matics and for an approximate check of the number of plays of the mechanism.

A Popularity Meter is included in the mechanism for determining the number of times the different records have been played.

The Selection Receiver and the Amplifier are mounted on a door at one end of the cabinet and are in a vertical position. The door may be opened for access to the tubes, fuses, and connections or it may be fully removed. The units are hinged at the lower edge and, by removing two readily accessible wing nuts, they may be lifted away from the door panel for inspection or service of the interior wiring or tube and plug socket connections during normal operation.

Major assemblies furnished as standard equipment in the Model HM 100C are:

1 - Type 145S8-L6 Select-O-Matic Mechanism with Type 100SA6-L6 Selector Assembly.

1 - Type MRA3-L6 Master-Remote Amplifier.

1 - Type WSR6-L6 Wired Selection Receiver.

1 - Type PS6-1Z Wall-O-Matic Power Supply.

1 - Type MRVC-1 Master Remote Volume Control Kit.

SPECIFICATIONS

Power Requirements:

117 volts, A.C., 60 cycle
Standby (without Wall-O-Matics)..... 40 watts
Operating (without Wall-O-Matics).....200 watts
For each 3W1 Wall-O-Matic, add to standby power requirements..... 15 watts

Cabinet Key Number.....G245

Record Capacity.....50 records (100 selections)

Record Type.....45 rpm, 7-inch diameter, 1.5-inch center hole.

Pickup.....Seeburg Magnetic

Monitor Speaker.....5" p.m.

Amplifier:

8-tube, Constant Voltage Type (70.7 volt) with Automatic Volume Compensator.

Audio Power Output (at full volume)..... 25 watts, max.

Remote Speakers:

Seeburg Type CV (Constant Voltage) or RS

Remote Control:

Type.....Seeburg, 3-wire "Wall-O-Matic "100"
Nominal operating voltage..... 25
Power source for Wall-O-Matics.....Selection Receiver and Power Supply.....(Type PS6-1Z).
Maximum number of Wall-O-Matics operated from Selection Receiver..... 6
Maximum number of Wall-O-Matics operated from Power Supply..... 6

Tubes:	Fuses:
1 - 6J7	1 - 5 amp. 3AG
1 - 6SN7GT 1 - 6SK7	1 - 3 amp. 3AG
2 - 6SL7GT 2 - 6L6G	2 - 2 amp. 3AG Slo-Blo
1 - 2050 1 - 5U4G	2 - 3 amp. Fustat

Dimensions:

Height ..... 27½ Inches
Width ..... 36 Inches
Depth (front to back) ..... 23 Inches
Net Weight..... 208 Pounds
Shipping Weight..... 254 Pounds

SEEBURG
SELECT-O-MATIC "100"

R. C. SPECIAL MODEL HM 100C

DAMAGE CAUSED BY SHIPPING

Examine the instrument immediately after unboxing. If any damage is found, notify the transportation representative and get his signature on the transportation bill with notation of damage.

UNBLOCKING

Before placing this phonograph into operation it is necessary to remove or loosen certain shipping hardware used to safeguard the mechanism during transit. Carefully follow instructions on the tags found in several places in the instrument and remove blocks and shipping supports accordingly. CAUTION: Do not attempt mechanism operation by manually turning the flywheel – this may damage the mechanism. Use the service switches!

DO NOT PUT PACKING BLOCKS, INSTRUCTION CARDS, OR ANY OTHER MATERIAL ON THE AIR INTAKE SCREEN IN THE FLOOR OF THE CABINET, AS THIS WILL OBSTRUCT VENTILATION AND CAUSE OVERHEATING. SUCH OVERHEATING MAY WARP RECORDS AND SHORTEN THE LIFE OF THE EQUIPMENT.

This instrument is shipped with tubes and plugs installed. In shipment they may loosen; for this reason, it is well to see that they are all firmly seated in the sockets before inserting the line cord.

ELECTRONIC EQUIPMENT

The electronic units are vertically mounted on the inside of the end door of the cabinet. The door is hinged at the bottom and may be opened outward for access to tubes, fuses, tone controls, plugs, etc. The door is locked in place with a spring latch which is released by pulling a ring located in the mechanism compartment at the top of the wall separating the mechanism and the electronic units. The outward movement is limited by a chain which may be unhooked to permit lowering the units to the floor for greater accessibility or removal from the cabinet.

The rear of the electronic units can be exposed for test at tube socket and plug connections during normal operation. The units are hinged at the lower edge so the upper end may be lifted away from the cabinet door after removal of two wing nuts. These wing nuts are readily accessible when the end door is opened. *The upper end of the electronic units must be clear of the opening in the cabinet before the door is lowered.*

VOLTAGE RATING

Before connecting the line cord to a light socket or outlet make certain that the voltage and frequency on the meter box at the location agree with the markings of voltage and frequency on the instrument name plate.

PLACING THE R. C. SPECIAL

To obtain best performance and long service from this equipment, it should be placed on a firm, reasonably level surface away from excessive moisture and heat.

WARNING: To prevent warping records place phonograph where the records will not at any time be exposed to direct sunlight or any other radiant heat. Do not reduce ventilation by obstructing the vent screens.

A space of at least two inches must be allowed between the back of the cabinet and the wall, so as to assure adequate ventilation.

SERVICE SWITCHES

Two service switches are located at the right side of the mechanism compartment. The one toward the rear is a toggle action switch that controls the mechanism motor, and the other is a spring return switch that provides the means to scan the carriage. When the motor switch is set to the "UP" position it prevents the carriage from operating, even though selections are established on the Solenoid Assembly.

LOADING RECORDS

To obtain satisfactory performance use only new or nearly new records on the Select-O-Matic "100" Mechanism. Arrange the records so that the most popular tunes will be divided between odd and even numbered selections. This will result in more nearly equal wear on the two styluses of the pickup. Any standard-7-inch commercial 45 rpm record may be used.

Occasionally, records will be found that have an undersize center hole. This is caused, in some cases, by the paper label being pushed into the center hole. If the record center hole is undersize, such a defective record may stick on the record center pin.

Throw the main switch "on". Set the rear switch to the "up" position; this keeps the carriage from operating even though credits are established on the Selector Assembly. Hold the scanning switch in the "up" position until the carriage is near the right hand end of base. Release the scanning switch.

Starting at the left end of the magazine (A-1, A-2), *insert one record in each record space.* The left side of all records will be the odd number selections. Thus A-1, A-5, B-7, C-3, D-1, etc., all will be left sides, and A-2, A-6, B-8, C-4, D-2, etc., will be right sides of records. *CAUTION: Do not force records into record spaces!* Any normal record will roll very freely into record spaces. A record which is warped badly enough to have any tendency to bind in the magazine space would not be properly played in any automatic mechanism and should not be used.

When the left half of the magazine has been loaded with records, scan the carriage to the left end of the base and load the right half of the magazine. *After the magazine has been loaded, set the lower service switch to the "down" position.*

AUDIO CONTROLS

The Master Remote Amplifier is equipped with a keyed volume control which is accessible through a hole in the rear door. It is inoperative when a remote volume control is used.

Bass and treble controls are located at the top of the amplifier panel and are accessible by opening the rear door. Room size and wall coverings determine the proper setting for each control. With typical records and location, very realistic reproduction is obtained by setting Bass on No. 2 or No. 3 and setting treble on No. 3. Treble boost is obtained on No. 4 and rather severe treble cut is had on No. 1

AUTOMATIC VOLUME COMPENSATOR

An automatic volume compensator is incorporated in the amplifier. It compensates for the variations in the average volume levels of different records and makes possible a volume control setting for normal records without danger of blasting or high volume due to exceptionally "loud" records. A 4-position switch on the amplifier provides a choice of degree of volume compensation from zero (off) to maximum.

Operation of the compensator may be checked by removing the muting circuit plug from the amplifier while records are playing. Normal operation is indicated if, when the plug is taken out, the sound from a low volume record will fade almost completely away; that from a record of average volume will decrease in loudness. Little effect will be noted if a "loud" record is being played when the plug is pulled out. The change in volume, if any, will take place slowly, not suddenly when the muting plug is pulled out and replaced. Approximately six to eight seconds will be required to restore the volume to the original level after the plug is replace.

POPULARITY METER

A popularity meter is provided behind the "Record Now Playing" indicator at the top of the magazine. It is exposed to view by swinging the cover downward past the front of the "Record Now Playing" indicator. The popularity of each of the fifty records is indicated by 50 indicator wheels. Each wheel is calibrated from 0 to 50 and shows approximate total number of plays (both sides) the corresponding record has had.

For a quick check of record popularity, the indicating wheels are part blue and part aluminum finish. Less than 10 plays are shown in the blue area while 11 or more are indicated in the aluminum area.

To Reset the Popularity Meter

The lever at the right hand end of the meter partially resets the wheels each time it is pressed and released. It should be operated until all the wheels indicate zero.

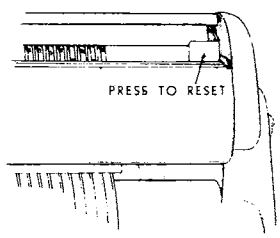


Figure 1.

SELECTION COUNTER

A selection counter is built into the Selection Receiver. This counter totals SELECTIONS made from all Wall-O-Matics. The counter may be read by lowering the Electronic Equipment at end of the cabinet.

Although this counter is intended primarily as a selection counter, the approximate total value of coins received in the Wall-O-Matic cash boxes may be figured as follows (assuming six plays for a quarter):

1. Subtract the present counter reading from the last reading. (The reading taken when the cash boxes were last emptied.)
2. From this figure subtract the total number of quarters in all cash boxes.
3. Multiply by .05 to obtain value in dollars.

EXAMPLE:

Present counter reading.....	11792
Last counter reading.....	10680
Difference.....	1112
Number of quarters.....	78
	1034
	x.05
Approximate cash.....	$51.70

NOTE: The counter may register slightly higher or lower than the actual number of selections, because of the multiple count during simultaneous operation of two or more wall boxes.

WALL-O-MATIC "100"

The remote choice of 100 selections is made possible by the Wall-O-Matic "100" which pulses the Selection Receiver to register selections on the Select-O-Matic "100" Mechanism. A sufficient number of these units should be used and placed to provide convenient selection from all parts of the location.

Power to operate up to six Wall-O-Matics is available from the Wired Selection Receiver and six additional Wall-O-Matics may be connected to the power supply shipped with the R. C. Special. Thus, a total of twelve Wall-O-Matics may be powered from the R. C. Special as it is received. When more than Twelve Wall-O-Matics are used, additional power supplies (Type PS6-1Z) are required. For each power supply that is added, six additional Wall-O-Matics may be used. Mounting holes and space is provided in the Model HM100C for two extra power supplies (total of three power supplies).

The wiring of the Wall-O-Matics is facilitated by the use of special cable, Seeburg Part No. 12015, which is available in continuous lengths as required. Details of wiring and installing the Wall-O-Matic "100" are included in the instruction folder shipped with each Wall-O-Matic "100".

Bar Bracket Assembly, Seeburg Part No. 500185, is available for rigidly mounting the Wall-O-Matic on bars, counters and tables.

SPEAKERS

Adequate distribution of sound at uniform level thru-out the service area can be obtained only by careful placement of a sufficient number of speakers, and by adjusting the volume of the speakers individually to suit local conditions. The adjustment of the volume level at each speaker is simplified by the use of Seeburg Constant Voltage (CV) Speakers. While the older Type RS Speakers may be used with the Model HM100C, the Type CV Speakers are recommended for R. C. Special installations, because the volume level (Watts) can be adjusted at each speaker

Any Seeburg Constant Voltage Type Speaker may be used but the following types are recommended:

Type CVS4-8, Wall Speaker, Ivory Finish, Teardrop.

Type CVS6-8, Recessed Speaker, Grill Type, Ivory Finish, for Wall or Ceiling Installation.

Type CVS7-12, Recessed Speaker, Grill Type, Ivory Finish, for Wall or Ceiling Installation.

All of the above speakers can be connected for four different volume steps (watts). The The 8" types, CVS4-8 and CVS6-8, can be connected for 1/16, 1/4, 1 or 4 watts. The 12" type, CVS7-12, can be connected for 1/8, 1/2, 2 or 8 watts.

After the speakers have been mounted, one or more cables can be run from the R. C. Special, one cable for each group of speakers. The cable can be run from one speaker to the next, cutting the cable at each speaker and using the speaker terminals as junction points.

NOTE: For installation and wiring of the speakers, see instruction folder packed with each speaker.

Be sure that the phasing of all speakers is the same; this will be accomplished if the same wire of the speaker cable is connected to the common "C" terminal at all speakers. This wire should be connected to the common terminal at the amplifier. The other wire in the cable is connected to the "H" terminal at the amplifier when using Type CV speakers, as shown in Figure 2. After the installation is finished, a critical listening test should be made and the volume (Watts) readjusted at certain speakers where required to obtain uniform sound coverage under normal noise conditions. The power consumed at each speaker will depend on the connections that have been made at the speaker (See Speaker Installation Folder). The Wattage of all speakers must be added (excluding the monitor speaker) and the total Watts absorbed by all speakers must not exceed 25 Watts, which is the power rating of the Master-Remote amplifier. For best operation, the total Watts should be not less than six Watts (25% of rated amplifier load). If Seeburg Type CV speaker are used, and the speaker load is 25% to 100% rated amplifier load (six to twenty-five Watts), no impedance matching transformers are required. Within the limits described above, the problems of impedance matching are eliminated when using Type CV speakers on the MRA3-L6 Power Amplifier.

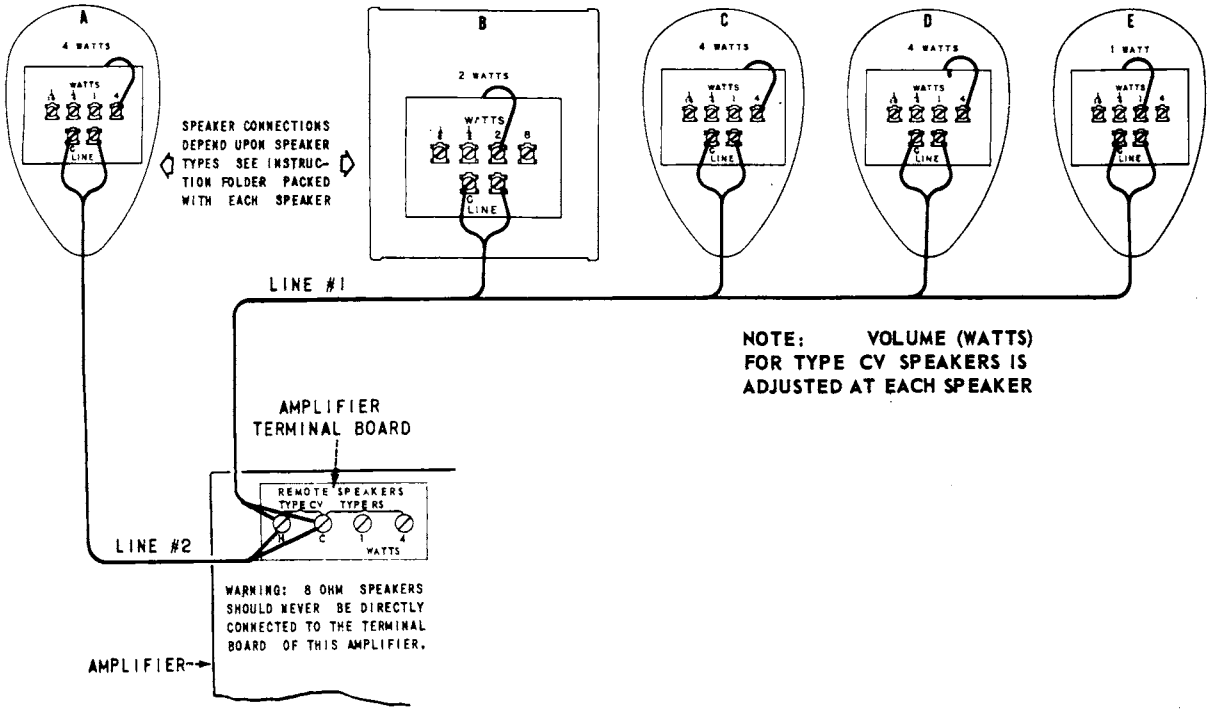


Figure 2. Typical CV Speaker Installation

TOTAL WATTS OF SPEAKER LOAD

Line No. 1:	1 (Speaker)	x	2	(watts)	=	2.0 watts
	2 (Speakers)	x	4	(watts)	=	8.0 watts
	1 (Speaker)	x	1	(watts)	=	1.0 watts
Line No. 2:	1 (Speaker)	x	4	(watts)	=	4.0 watts
						15.0 watts

This is between 6 and 25 watts, and is a satisfactory amplifier load.

When a listening test was conducted on the above installation during typical operation *periods, it was found* necessary to increase the input to Speaker "B" to 8 watts.

The new speaker load on the amplifier:

Line No. 1:	1 (Speaker)	x	8	(watts)	=	8.0 watts
	2 (Speakers)	x	4	(watts)	=	8.0 watts
	1 (Speaker)	x	1	(watts)	=	1.0 watts
Line No. 2:	1 (Speaker)	x	4	(watts)	=	4.0 watts
				New Total		21.0 watts – Satisfactory Load

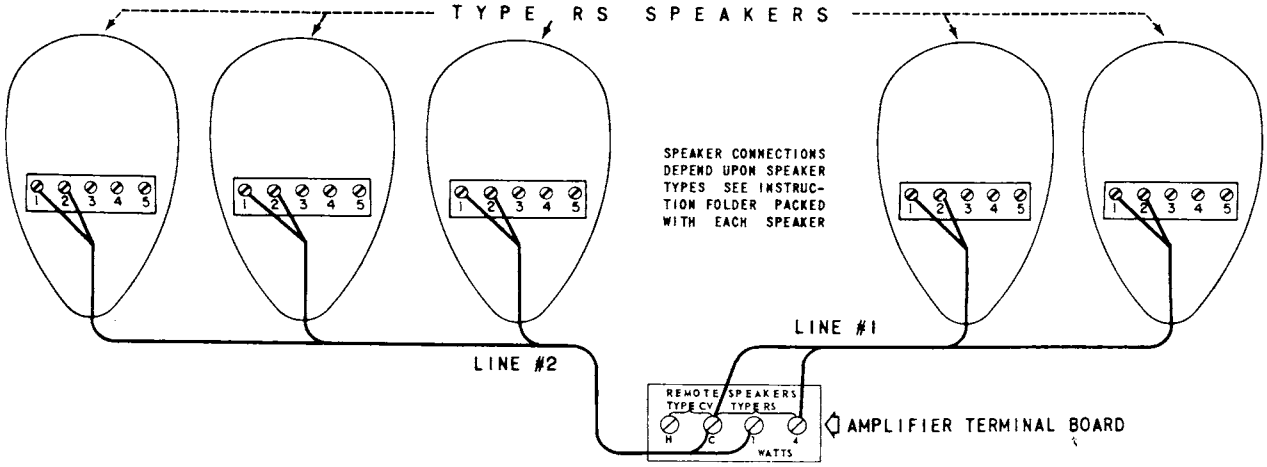


Figure 3. Typical RS Speaker Installation

SPEAKER LOAD ON THE AMPLIFIER

Line No. 1:	2 (Speakers)	x 4	(watts)	= 8 watts
Line No. 2:	3 (Speakers)	x 1.0	(watts)	= 3 watts
			Total Load	= 11 watts

This is a satisfactory speaker load.

If Type RS Speakers are used with the R.C. Special, Model HM100C, they may be wired as shown in Figure 3. Any group wired as shown may be connected to amplifier terminals "C" and 1 (Watt) for 1 (Watt) per speaker, or may be connected to terminals "C" and 4 (Watts) for 4 Watts per speaker. While this arrangement is not as flexible as the Type CV method, it does permit two or more groups of speakers at two different volume levels. When using the Type RS Speakers, it is necessary to add the Watts to all speakers and make sure this total Wattage does not exceed 25 Watts, and is not less than 6 Watts.

The monitor speaker, connected to the "C" and "H" terminals of the speaker terminal strip, is disconnected by a switch which opens when the cabinet door is in place. The wattage consumed by the monitor speaker is quite small and is not adjustable. This small load may be ignored when totalling all speaker wattages.

NOTE: If the wattage of all speakers connected to the Master-Remote Amplifier exceeds 25 Watts, an Auxiliary Remote Amplifier, Seeburg Type ARA1-L6, may be used to supply part of the speaker load, or lower volume steps may be used. When using CV type speakers on the ARA1-L6, set the speaker matching plug to "2" and make connections to terminals marked "Speakers".

SPEAKER CONTROL TYPE NO. 25LT-1 (Accessory)

The speaker control is a housed adjustable autoformer that may be installed in any 70 volt CV speaker line for the purpose of separately controling the volume from any single speaker or group of speakers. In installations involving speakers in several rooms these Speaker Controls are especially useful to obtain flexibility of control.

MASTER REMOTE VOLUME CONTROL

The Master Remote Volume Control, Type MRVC-1, supplied with each Model HM100C comes completely wired and ready for use. It is only necessary to plug it into the 7-contact receptacle on the Master-Remote Amplifier and dress the cable to the permanent position selected for the control unit. Screws and cable clamps furnished with this kit make it easy to do a neat, workmanlike installation.

MICROPHONE PRE-AMPLIFIER AND MIXER TYPE PAK1-L56 (Accessory)

The Microphone Pre-Amplifier and Mixer Kit, Type PAK1-L56, may be used with the Select-O-Matic Model HM100C on any installa-

tion requiring the transmission of voice or live music thru the Seeburg Sound Distribution System.

TESTING

After the installation has been completed, all units should be carefully tested to see that they perform properly. Make several selections from each Wall-O-Matic and see that the selections made have correctly registered on the Selector Assembly. Check the quality of music, and note that music can be heard at a comfortable volume level in all parts of the service area. See that all cables are dressed into inconspicuous places to present a neat appearance and prevent mechanical damage to them.

REMOVING CARRIAGE COVER

The carriage cover must be removed for lubricating the mechanism and for servicing. It is removed as follows:

1. Select an odd number selection (F-1) to get pickup to the left side.
2. Cover the pickup cartridge with the plastic protective case.
3. Remove the top screw on the right hand-brush holder and turn the holder until the brush is at the top.
4. Remove two oval head screws; one is on the top, and the other on the lower left side. Lift the cover straight up.
5. When replacing the cover, carefully lower the cover over the carriage making sure the three notches at the bottom edge engage the three support studs on the carriage.
6. Fasten cover and brushes with their respective screws.

LUBRICATION

The mechanism and other mechanical parts should be lubricated periodically as shown on the lubrication chart.

PICKUP STYLUSES

In order to retain good quality of reproduction it is necessary to keep the pickup and styluses clean and in good condition. *Caution: The pickup and styluses must be handled carefully or the delicate armature suspension may be damaged*

When records are changed, or the equipment is cleaned the styluses and the stylus brushes should be cleaned by using the small brush furnished for this purpose.

STYLUS REPLACEMENT

The styluses used with the Seeburg magnetic pickup are tipped with natural Swiss sapphire, which is excelled in hardness and wear resistance only by diamond. However, all materials wear in the presence of friction; wear of a stylus starts with the first play and continues until the stylus is replaced. The tone quality is good and distortion remains at a low figure for the first few thousand plays but gradually distortion increases until a disagreeable amount is noticed.

When only pure vinylite 45 rpm records are used, styluses should be changed every four or five thousand plays to maintain good quality. If, because of the presence of oil on the records, dust or dirt is permitted to accumulate and remain on the surface, the wear will be more rapid; economical operation will require more frequent stylus replacement.

If the styluses are not replaced before objectionable distortion sets in, the records may be permanently damaged, and replacing the Styluses will not restore the original tone quality.

Because the cost of a pair of styluses is only a small fraction of the cost of a set of records, it is economically sound to replace styluses on a regular schedule rather than on a hit-or-miss basis. A schedule can be most easily determined from instrument income. The styluses should be changed according to the following table if the records are arranged for approximately equal distribution of play between the right and left sides of the pickup:

Approximate Weekly Gross Receipts:	Change Both Styluses Every:
$ 25	4 months
$ 50	2 months
$ 75	6 weeks
$100	4 weeks
$150	3 weeks

The table is based on five cents per selection and four to five thousand plays for each stylus.

To replace Styluses:

1. Remove the slotted-head screw at the top of the arm and remove the pickup by lifting straight up. Thread the screw into the pickup so as not to lose it.

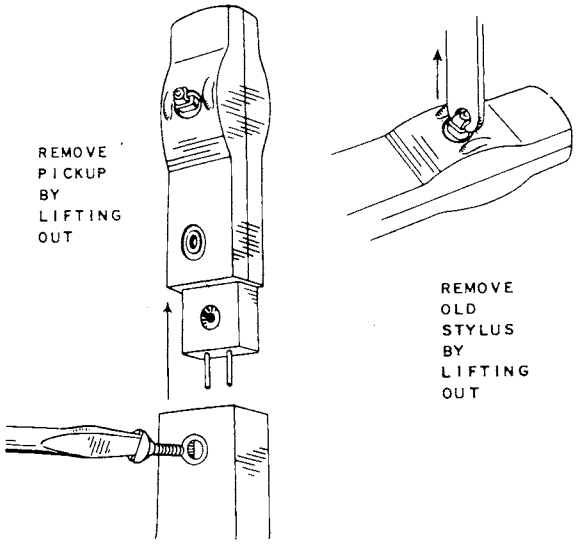


Figure 4.

2. Remove one of the installation tools (with new stylus) from the card and thread the old stylus through the hole in the rounded end of the tool. Lift out the old stylus by gently pulling STRAIGHT OUT. DO NOT USE A TWISTING MOTION OR MOVE THE STYLUS FROM SIDE TO SIDE – PULL STRAIGHT OUT.

3. Gently insert the new stylus - *DO NOT FORCE*. Slide the tool off the stylus.

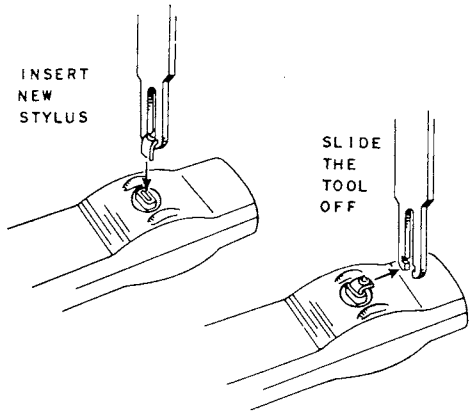


Figure 5.

4. Turn the pickup over and replace the other stylus in the same manner.

Install the pickup on the arm after checking that styluses are installed to point in direction shown in Figure 6. Tighten the holding screw firmly – check landing adjustment. Also, check the stylus brushes to make sure that they wipe the styluses lightly to remove lint and dust.

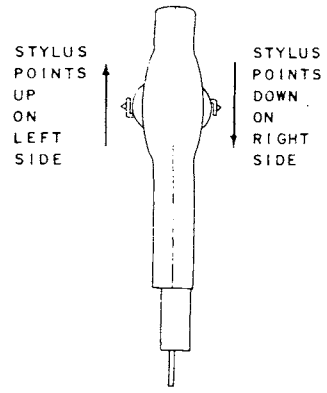


Figure 6.

RECORD CARE

To avoid accumulation of dust and dirt, keep oil off the records. Wipe your hands with a clean cloth before handling records and always handle records by edge and center hole. Records that show signs of surface dust or dirt should be wiped with a lightly dampened cloth, using a circular motion. Use only water to dampen the cloth – solvents will damage the records. Records not in use should be stored on edge in a cool place. Avoid exposing the records to excessive heat. Records become, overheated in a very short time if exposed to direct sunlight or if stored in a closed automobile or truck. Temperature above 120° F. should be avoided. See instructions on "Placing the Select-O-Matic "100".

PREPARING INSTRUMENT FOR MOVING

1. Place protective tube over pickup cartridge and install Pickup Arm shipping support.
2. Remove all records from the Magazine. Position Carriage on base so that the selection indicator light is between A-5 and A-7, Put three pads under the carriage wheels; then bolt the carriage to the base by means of two 2-inch long thumb screws.
3. Put the ¼" wood shims under the base at the mechanism hold-down bolts.
4. Tighten three mechanism hold-down nuts.

TO SHIP

If the instrument is to be shipped by way of a transportation company, it should be blocked and crated in the same manner in which it was received from the factory.

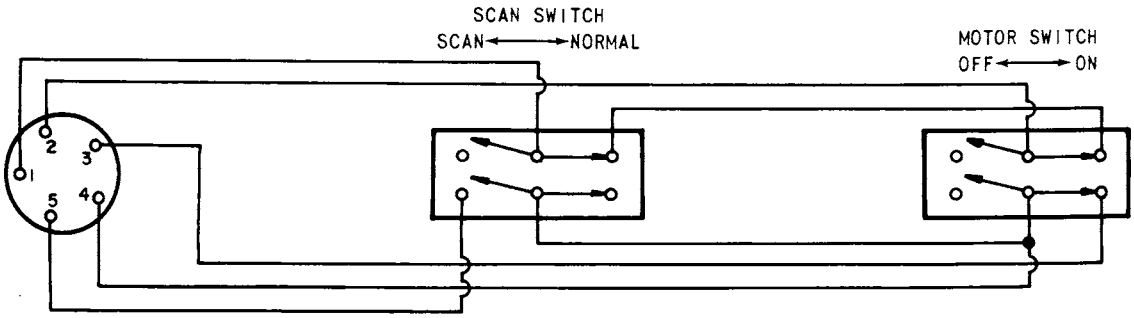


Fig. 7. SCHEMATIC DIAGRAM - SERVICE SWITCHES

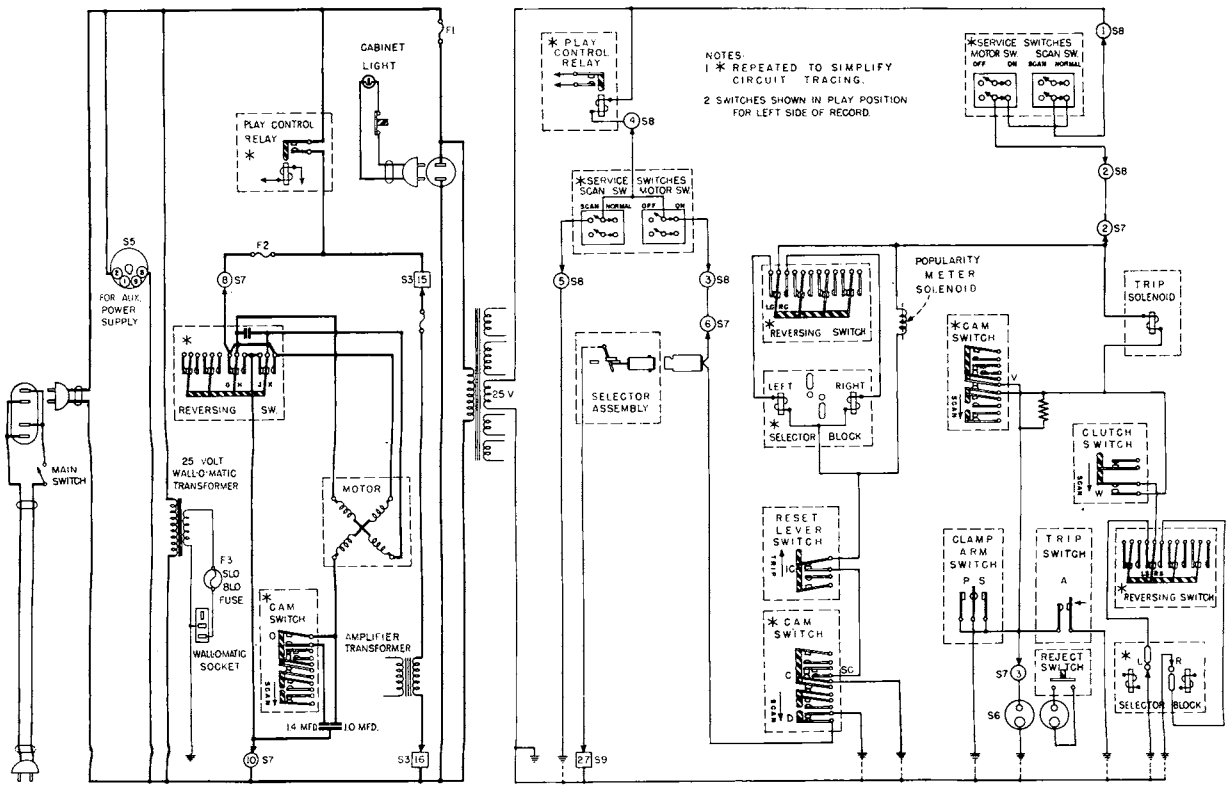
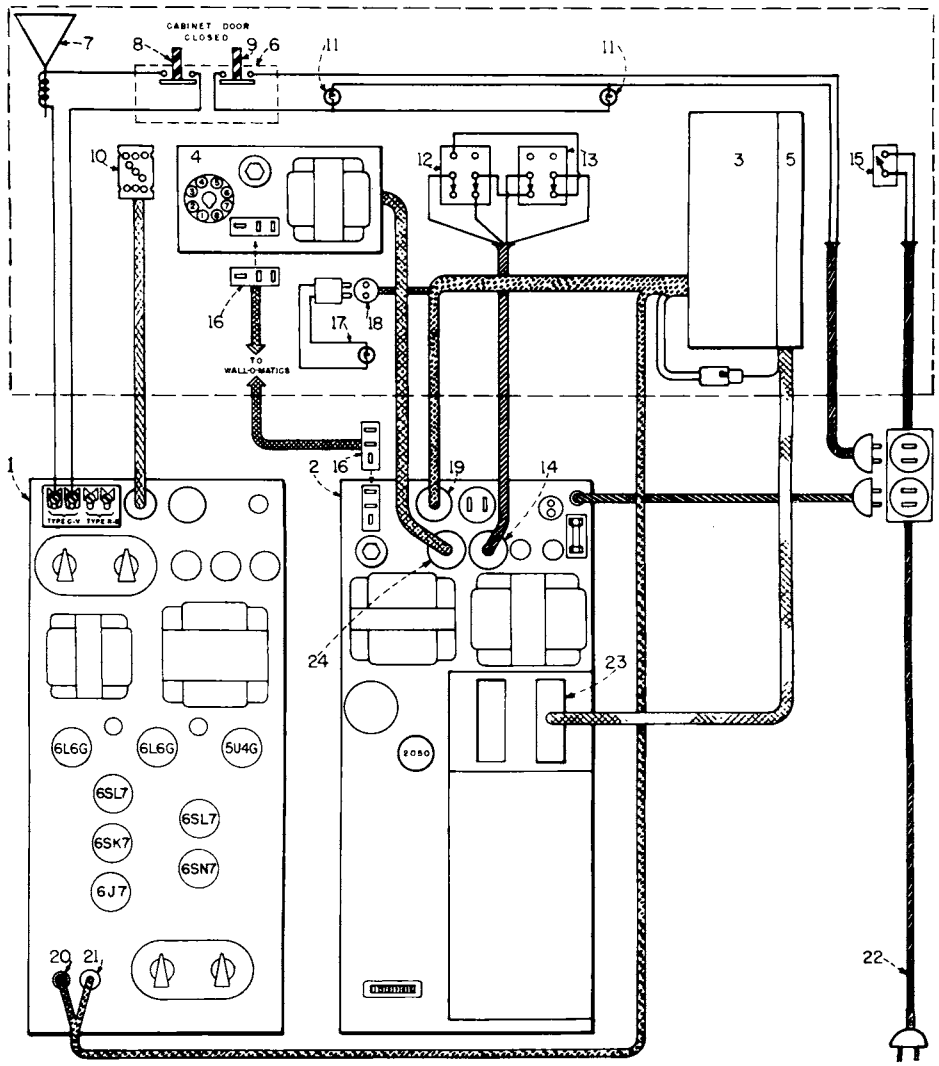


Fig. 8. SCHEMATIC DIAGRAM - POWER & CONTROL CIRCUITS



CABINET WIRING DIAGRAM

PARTS LIST

Item	Part No.	Part Name
1	305100	Amplifier, Type MRA 3-L6
2	303233	Selection Receiver, Type WSR 6-L6
3	245175	Select-O-Matic Mechanism, Type 145S8-L6
4	60485	Aux. Power Supply, Type PS 6-1Z
5	304319	Selector Assembly, Type 100SA 6-L6
6	600228	Interlock Switch Bracket
	405690	Interlock Switch Cover
7	402725	Monitor Speaker
	405346	Monitor Speaker
8	600024	Speaker Switch
9	600024	Light Switch
10	402217	Resistor Assembly
11	404165	Cabinet Light Socket
12	404671	Scan Switch
13	23261	Motor Switch
14	200241	5-prong Plug
15	303112	Toggle Switch
16	12015	3-prong Plug
17	404825	Socket and Jewel Assembly
18	A251751	2-prong Socket
19	A250942	11-prong Plug
20	K228440	Single Prong Plug
21	A250938	3-prong Plug
22	405366	Line Cord Assembly
23	F9461	27-prong Plug
24	12004	9-prong Plug

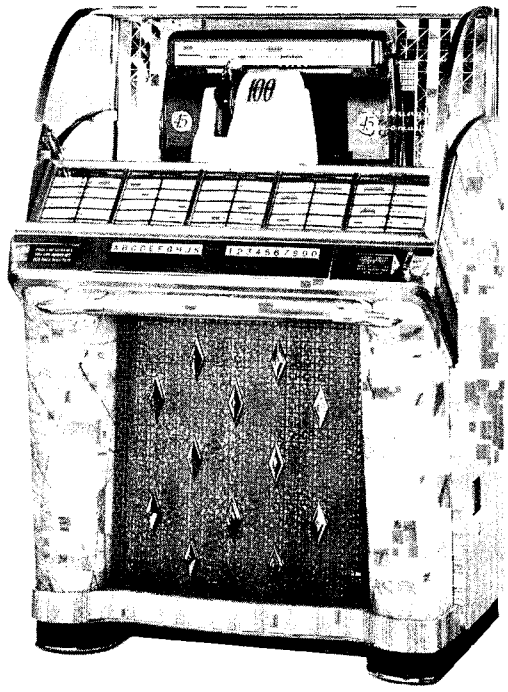
ADDITIONAL PARTS LIST

PART NO.	PART NAME
404810	Cabinet Handle
405351	Floor Screen (Mechanism)
405352	Floor Screen (Electronic)
404823	Cabinet Screen (Electronic)
405371	Lower Chassis Mounting Angle
405397	Hook & Upper Chassis Mtg. Angle
70025	3/16-24 Wing Nut
405395	Hinge & Mtg. Strap Assembly
405392	Latch
405391	Door Lock
404816	Door Vent Screen
502094	"Seeburg" Escutcheon
405037	Chassis Mounting Channel
405133	Stop Pin
405359	Caster
404672	Door Chain Assembly
405366	Line Cord & Outlet Assembly
125364	Main Switch Mtg. Plate
70515	Thumb Screw (Shipping)
405272	Caution Label

SEEBURG

SELECT-O-MATIC "100"

MODEL 100W



The Select-O-Matic "100", Model 100W, is a coin-operated phonograph using the Seeburg Select-O-Matic Mechanism for selective playing of either or both sides of fifty 45 r.p.m., 7-inch records. Choice of any of the one hundred selections may be made at the instrument with an Electrical Selector or by remote control with 100-selection 3-wire Wall-O-Matics. A program holder using standard size title strips displays the entire hundred selection program and may be removed as a complete unit or in sections of 20 titles.

The program title strips are back-lighted by a 25-watt Daylight fluorescent lamp which also illuminates the mechanism, the speaker grille, and the electrical selector escutcheons. A 20-watt Daylight fluorescent lamp is used in each of the pilasters.

The cover glass through which the mechanism may be seen is hinged and opens for changing records and title strips. The cover is retained at any position of opening by a self-locking support rod. Service Switches, a Popularity Meter and a Selection Counter are accessible with the cover open. The Service Switches are used to operate the mechanism when servicing the instrument. The Popularity Meter which is a part of the mechanism indicates the number of times (up to 50) each record is played. The Selection Counter which is part of the Electrical Selector totals the number of selections made with the Electrical Selector and with remote control Wall-O-Matics.

Coins are deposited in a single entry coin chute and pass through a 5-, 10-, 25-cent slug rejector to the coin switches. The coin switches are connected for one play for a nickel, two plays for a ten-cent piece or six plays for a quarter. The coins are stored in a canvas bag which has a capacity of approximately one-hundred fifty dollars. The bag, is removed through a small door at the lower right side of the cabinet.

A Seeburg Magnetic Pickup with one-quarter ounce stylus pressure assures long record life and high quality reproduction unaffected by temperature or humidity conditions. A 25-watt amplifier connects to a 15" dynamic speaker in the cabinet and to remote speakers. The amplifier incorporates an automatic volume compen-

sator to provide uniform volume level and avoid "blasting" due to "loud" records. A single volume control is used to adjust the volume of sound from the phonograph speaker and the remote speakers. Provision has been made for plug-in connection of a remote volume control that may be up to a hundred feet from the Select-O-Matic without introducing hum or causing distortion.

A Selection Receiver supplies power for remote control Wall-O-Matics and incorporates the switches and relays for operation from remote points as well as from the Electrical Selector. It is equipped with convenient sockets for plug-in connections of the mechanism, cabinet lighting, amplifier, and control circuits.

The Selection Receiver and the Amplifier are mounted in a vertical position on the inside of the cabinet rear door. The door may be opened for access to the tubes and fuses or it may be fully removed. The units are fastened over an opening which is covered by a steel plate. The plate, which is held in place with wing nuts, may be removed to expose the tube socket and plug connections and the interior wiring of the units for test furing normal operation.

A selection cancel switch, effective only when a record is playing, is operated by a small, inconspicuous button on the back near the left side of the cabinet. A remote cancel switch or button may be substituted by plug-in connection to the selection receiver.

SPECIFICATIONS

Power Requirements:
117 volts A.C., 60 cycles
Standby (without Wall-O-Matics) - 140 watts
Operating (without Wall-O-Matics)- 270 watts

Cabinet Lighting:
1 - 25-watt, 33-inch, Daylight Fluorescent (FS25-Starter.)
2 - 20-watt, 24-inch, Daylight Fluorescent (FS2-Starter.)

Cabinet Key Number.....F221

Record Capacity.....50 records (100 selections)

Record Type.....45 rpm
7-inch diameter, 1.5-inch center hole.

Pickup.....Seeburg Magnetic
Speaker.....15" Electro-dynamic
Finish: Silver Zebrano Plastic Veneer.

Coin Equipment:.....5-, 10-, 25-cent Single Entry Slug Rejector.

Amplifier:
8-tube Constant Voltage Type with Automatic Volume Compensation.

Audio Power Output (at full volume):
To Phonograph Speaker (adjustable).....
¼ to 16 watts.....
To Remote Speakers.....24 watts, max.
Maximum total to Phonograph Speaker & Remote Speakers.....25 watts

Major Component Assemblies:
Type 145S10-L6 Select-O-Matic Mechanism with
Type 100SA7-L6 Selector Assembly
Type ES10-L6 Electrical Selector
Type MRA3-L6 Master Remote Amplifier
Type WSR5-L6 Wired Selection Receiver

Remote Control:
Type.....Seeburg, 3-wire "Wall-O-Matic 100"
Nominal operating voltage.....25
Power source for Wall-O-Matics.....Selection Receiver or Aux. Power Supply (Type PS6 1Z)
Maximum Number of Wall-O-Matics powered by
Selection Receiver 6
Maximum Number of Wall-O-Matics powered by each
Aux. Power Supply.....6

Remote Speakers: CV (Constant Voltage) or RS

Tubes:	Fuses:
1-6J7	1-5 amp. 3AG
1-6SN7GT	1-3 amp. 3AG
1-6SK7	2-2 amp. 3AG SLO-BLO
2-6SL7GT	1-3 amp. Fustat
2-6L6G	
1-5U4G	
1-2050	

Dimensions:

Height.....	54 Inches
Width.....	35 Inches
Depth.....	27 Inches
Net Weight.....	326 Pounds
Shipping Weight.....	406 Pounds
Record Weight, 50 Records, approx..	3 Pounds

INSTALLATION and OPERATION

DAMAGE CAUSED BY SHIPPING

Examine the instrument immediately after unboxing. If any damage is found, notify the transportation representative and get his signature on the transportation bill with notation of damage.

UNBLOCKING

Before placing this phonograph into operation it is necessary to remove or loosen certain shipping hardware used to safeguard the mechanism during transit. Carefully follow instructions on the tags found in several places in the instrument and remove blocks and shipping supports accordingly. *CAUTION: Do not attempt mechanism operation by manually turning the flywheel – this may damage the mechanism. Use the service switches!*

DO NOT PUT PACKING BLOCKS, INSTRUCTION CARDS, OR ANY OTHER MATERIAL ON THE AIR INTAKE SCREEN IN THE FLOOR OF THE CABINET, AS THIS WILL OBSTRUCT VENTILATION AND CAUSE OVERHEATING. SUCH OVERHEATING MAY WARP RECORDS AND SHORTEN THE LIFE OF THE EQUIPMENT.

ELECTRONIC EQUIPMENT

The electronic equipment is mounted on the lower rear door. This door is hinged and can be swung out to permit access to coin equipment and to tubes, tone controls, plugs, etc., on the front of the electronic equipment. The cover plate on the rear of the electronic equipment can be removed by unscrewing three thumb nuts and loosening the screw at the lower center of the plate. *(NOTE: It is not necessary to remove this screw.)* The electronic equipment may be completely serviced while the phonograph is operating without removing it from the cabinet. Normally the opening of the lower rear door is limited by a chain. The chain can be unhooked and, if plugs at the upper end of the chassis are removed, the door can be swung open until it rests on the floor. The entire door can also be removed by removing all plugs and unhooking the chain, then lifting the assembly up and out toward the rear.

CABINET LID SUPPORT

The cabinet lid may be lifted to any required opening for access to the mechanism and the service switches. A notched support rod is attached to the lid and lifts with it. One of the notches in the rod hooks into and locks in a latch plate when the weight of the raised lid bears on it. A spring assures positive engagement of the rod by the latch plate and prevents accidental release by bumping or jarring. To lower the lid, it must first be lifted while pressing the support rod toward the back of the cabinet.

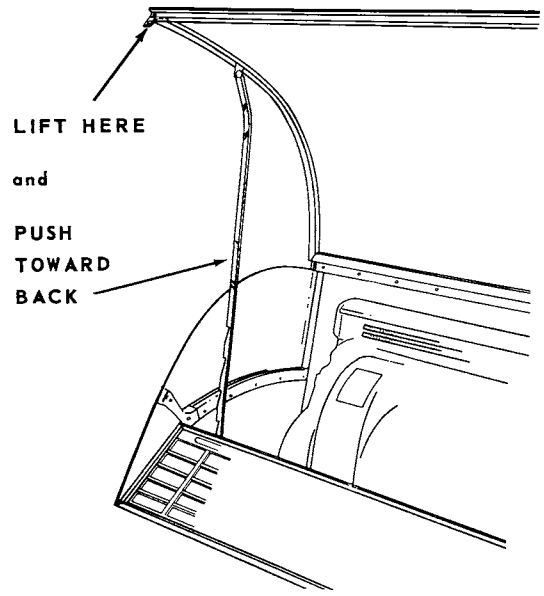


Figure 2.

TUBES AND PLUGS

This instrument is shipped with tubes and plugs installed. In shipment they may loosen; for this reason, it is well to see that they are all firmly seated in the sockets before inserting the line cord.

VOLTAGE RATING

Before connecting the line cord to a light socket or outlet make certain that the voltage and frequency on the meter box at the location agree with the markings of voltage and frequency on the instrument name plate.

PLACING THE SELECT-O-MATIC "100"

To obtain best performance and long service from this equipment, it should be placed on a firm, reasonably level surface away from excessive moisture and heat.

WARNING: To prevent warping records place phonograph where the records will not at any time be exposed to direct sunlight or any other radiant heat. Do not reduce ventilation by obstructing the vent screens.

A space of at least two inches must be allowed between the back of the cabinet and the wall, so as to assure adequate ventilation.

SERVICE SWITCHES

Two service switches are located in the mechanism compartment, on the left side, below the mechanism support bracket. The two-position toggle switch toward the back controls the mechanism motor. The spring return toggle switch toward the front scans the carriage. When the motor switch lever is set toward the front, the mechanism will not operate even though selections are "set up" on the Selector Assembly. The motor switch lever must be toward the back for normal operation. The scan switch lever, when held toward the front, causes the carriage to scan past selections which may be set up on the Selector Assembly. The scan switch can be used to move the carriage when the motor switch is in its "off" position.

LOADING RECORDS

To obtain satisfactory performance use only new or nearly new records on the Select-O-Matic "100" Mechanism. Arrange the records so that the most popular tunes will be divided between odd and even numbered selections. This will result in more nearly equal wear on the two styluses of the pickup. Any standard 7-inch commercial 45 rpm record may be used. Occasionally, records will be found that have an undersize center hole. This is caused, in some cases, by the paper label being pushed into the center hole. If the record center hole is undersize, such a defective record may stick on the record center pin.

Throw the main switch "on" (accessible through hole in rear door). Set the motor switch to the forward position; this keeps the carriage from operating even though credits are established on the Selector Assembly. (See Service Switches.) Hold the scanning switch in the forward position until the carriage is near the right hand end of base. Release the scanning switch.

Starting at the left end of the magazine (A-1, A-2), *insert one record in each record space.* The left side of all records will be the odd number selections. Thus A-1, A-5, B-7, C-3, D-1, etc., all will be left sides, and A-2, A-6, B-8, C-4, D-2, etc., will be right sides of records. *CAUTION: Do not force records into record spaces!* Any normal record will roll very freely into record spaces. A record which is warped badly enough to have any tendency to bind in the magazine space would not be properly played in any automatic mechanism and should not be used.

When the left half of the magazine has been loaded with records, scan the carriage to the left end of the base and load the right half of the magazine. *After the magazine has been loaded, set the lower service switch to the "down" position.*

PROGRAM HOLDERS

The complete Program Holder is removable from the cabinet. Open the cabinet lid, setting the support as shown in Figure 2. Press upward on the catches at each end of the Program Holder and pull the complete assembly toward you. See Figure 4. The individual program holders can be removed separately as desired by hooking a finder under the top of the holder and sliding it out of the guides.

A complete set of title strips is provided with the instrument. These can be found in the cash bag. Title strips are loaded into program holders by sliding the strip into the desired slot. The record titles for both sides of a record are to be put on one individual double strip, with the title for left side on the upper half of the strip and the title for the right side on the lower half of the strip. Thus when a record is inserted in the magazine the selection corresponding to the top title will face left. Spare classification headings are provided and will be found in the cash bag. Classification headings can be changed in the program holder by sliding the retainer springs up onto adjoining ledges and replacing the classification heading.

AUDIO CONTROLS

The Master Remote Amplifier is equipped with a keyed volume control which is accessible through a hole in the rear door. It is inoperative when a remote volume control is used.

Bass and treble controls are located at the top of the amplifier panel and are accessible by opening the rear door. Room size and wall coverings determine the proper setting for each control. With typical records and location, very realistic reproduction is obtained by setting Bass on No. 2 or No. 3 and setting treble on No. 3. Treble boost is obtained on No. 4 and and rather severe treble cut is had on No. 1.

AUTOMATIC VOLUME COMPENSATOR

An automatic volume compensator is incorporated in the amplifier. It compensates for the variations in the average volume levels of different records and makes possible a volume control setting for normal records without danger of blasting or high volume due to exceptionally "loud" records. A 4-position switch on the amplifier provides a choice of degree of volume compensation from zero (off) to maximum.

Operation of the compensator may be checked by removing the muting circuit plug from the amplifier while records are playing. Normal operation is indicated if, when the plug is taken out, the sound from a low volume record will fade almost completely away; that from a record of average volume will decrease in loudness. Little effect will be noted if a "loud" record is being played when the plug is pulled out. The change in volume, if any, will take place slowly, not suddenly when the muting plug is pulled out and replaced. Approximately six to eight seconds will be required to restore the volume to the original level after the plug is replaced.

POPULARITY METER

A popularity meter is provided behind the "Record Now Playing" indicator at the top of the magazine. It is exposed to view by swinging the cover downward past the front of the "Record Now Playing" indicator. The popularity of each of the fifty records is indicated by 50 indicator wheels. Each wheel is calibrated from 0 to 50 and shows approximate total number of plays (both sides) the corresponding record has had.

For a quick check of record popularity, the indicating wheels are part blue and part aluminum finish. Less than 10 plays are shown in the blue area while 11 or more are indicated in the aluminum area.

TO RESET THE POPULARITY METER

The lever at the right hand end of the meter partially resets the wheels each time it is pressed and released. It should be operated until all the wheels indicate zero.

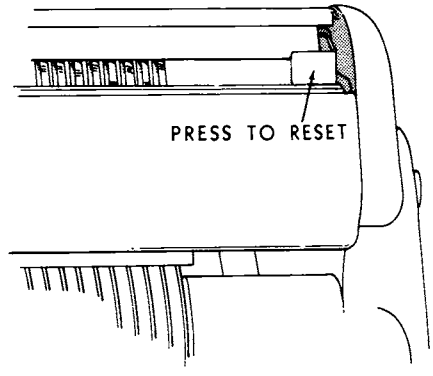


Figure 3.

SELECTION COUNTER

A selection counter is built into the right side of the electrical selector. This counter totals SELECTIONS made from the electrical selector and Wall-O-Matics. The counter may be read by opening the glass top and pulling the program holder forward as shown in Figure 4.

Although this counter is intended primarily as a selection counter, the approximate total value of coins received in the phonograph and Wall-O-Matic cash boxes may be figured as follows (assuming six plays for a quarter):

1. Subtract the present counter reading from the last reading. (The reading taken when the cash boxes were last emptied.)

2. From this figure subtract the total number of quarters in all cash boxes (phonograph plus all connected Wall-O-Matics.)

3. Multiply by .05 to obtain value in dollars.

EXAMPLE:

Present counter reading	11792
Last counter reading	10680
Difference	1112
Number of quarters	78
	1034
	x. 05
Approximate cash	$51.70

NOTE: The counter may register slightly higher or lower than the actual number of selections, because of the multiple count during simultaneous operation of two or more wall boxes.

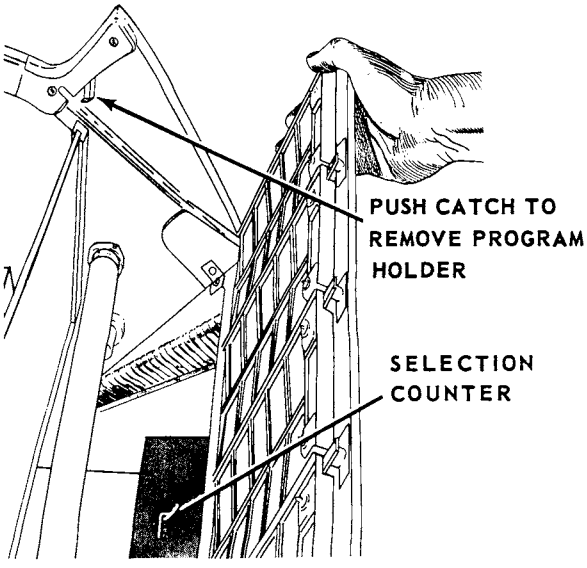


Figure 4.

WALL-O-MATIC "100"

The remote choice of 100 selections is made possible by the *Wall-O-Matic* "100" which pulses the Selection Receiver to register selections on the Select-O-Matic "100" Mechanism. A sufficient number of these units should be used and placed to provide convenient selection from all parts of the location.

Power to operate up to six Wall-O-Matics is available from the Wired Selection Receiver. When more than six Wall-O-Matics are used, additional power supplies (Type PS6-1Z are required. For each power supply that is added, six additional Wall-O-Matics may be used.

The wiring of the Wall-O-Matics is facilitated by the use of special cable, *Seeburg Part No. 12015,* which is available in continuous lengths as required. Details of wiring and installing the Wall-O-Matic "100" are included in the instruction folder shipped with each Wall-O-Matic "100".

Bar Bracket Assembly, *Seeburg Part No. 500185,* is available for rigidly mounting the Wall-O-Matic on bars, counters and tables.

SPEAKERS

The audio output of the Master-Remote Amplifier operates the large speaker mounted in the Select-O-Matic cabinet, and also terminates on the amplifier terminal board for powering remote speakers.

The audio system is of the "constant voltage" type, in which the amplifier output does not change when the speaker load is varied. This means that the volume from any speaker in the system will not change noticeably when other speakers are added or removed. It also facilitates adjustment of volume at each speaker; connections and speaker runs are simplified and, within certain limits, impedance matching problems are eliminated.

Except in very small locations, adequate distribution of sound at uniform level thruout the service area can be obtained only by careful placement of a sufficient number of speakers, and by adjusting the volume of the speakers individually to suit local conditions. The adjustment of the volume level at each speaker is simplified by the use of Seeburg Constant Voltage (CV) Speakers. While the older Type RS Speakers may be used with the Model 100W, the Type CV Speakers are recommended because the volume level (watts) can be adjusted at each speaker. *WARNING: 8 OHM SPEAKERS SHOULD NEVER BE CONNECTED DIRECTLY TO THE TERMINAL BOARD OF THE AMPLIFIER.*

Recommended Speaker Types are as follows:

Type CVS4-8, Wall Speaker (Teardrop-Ivory).

Type CVS5-12, Wall Speaker (Walnut Wood Cabinet).

Type CVS6-8, Recessed Speaker (Grill Type for wall or ceiling-Ivory).

Type CVS7-12, Recessed Speaker (Grill Type for wall or ceiling-Ivory).

All the preceding speakers can be connected for four different volume steps, from 1/16 watt to 4 watts for Type CVS4-8 and CVS6-8 and CVS6-8 and from 1/8 watt to 8 watt for Types CVS5-12 and CVS7-12.

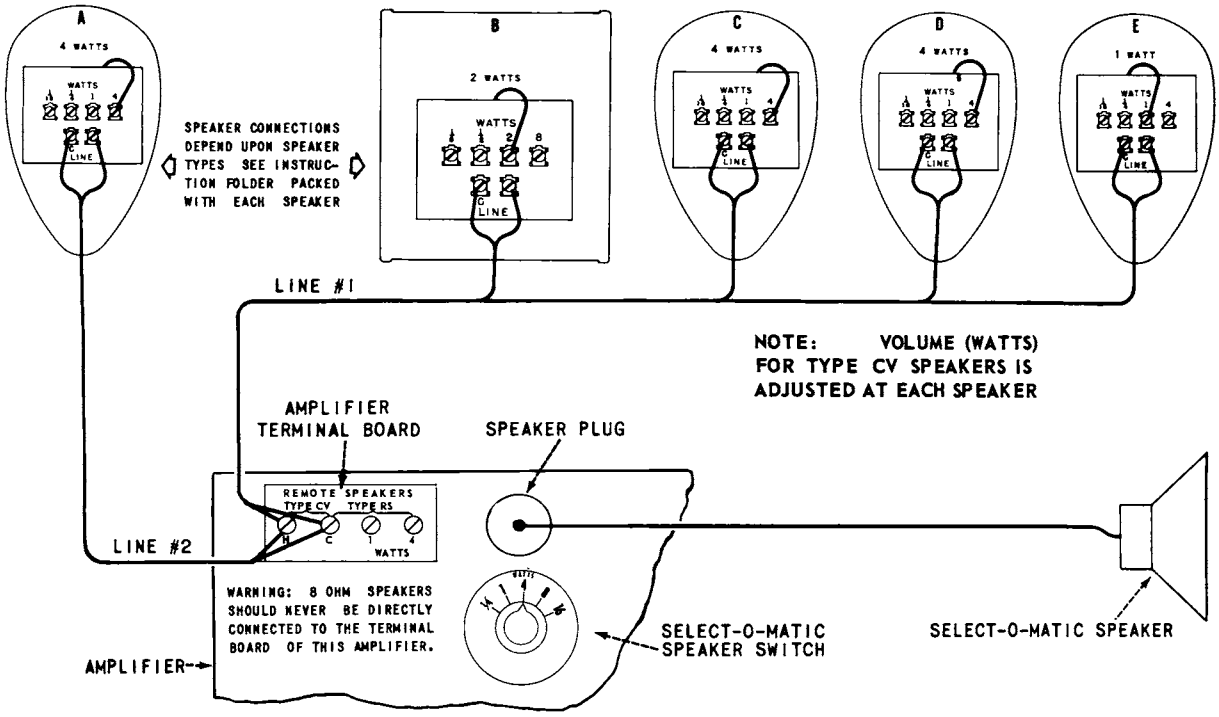


Figure 5. A Typical CV Speaker Installation

TOTAL WATTS OF SPEAKER LOAD

Line #1:	1 (Speaker)	×	2	(watts)	=	2.0 watts
	2 (Speakers)	×	4	(watts)	=	8.0 watts
	1 (Speaker)	×	1	(watts)	=	1.0 watts
Line #2:	1 (Speaker)	×	4	(watts)	=	4.0 watts
Select-O-Matic Speaker:					=	1.0 watts
				Total Load	=	16.0 watts

This is between 6 and 25 watts, and is a satisfactory amplifier load.

When a listening test was conducted on the above installation during typical operating periods, it was found necessary to increase the input to Speaker "B" to 8 watts.

The new speaker load on the amplifier:

Line #1:	1 (Speaker)	×	8	(watts)	=	8.0 watts
	2 (Speakers)	×	4	(watts)	=	8.0 watts
	1 (Speaker)	×	1	(watts)	=	1.0 watts
Line #2:	1 (Speaker)	×	4	(watts)	=	4.0 watts
Select-O-Matic Speaker						1.0 watts
				New Total	=	22.0 watts – Satisfactory Load

After the speakers have been mounted, one or more cables can be run from the phonograph, one cable for each group of speakers. The cable can be run from one speaker to the next, cutting the cable at each speaker and using the speaker terminals as junction points.

NOTE: For installation and wiring of the speakers, see instruction folder packed with each speaker.

Be sure that the phasing of all speakers is the same; this will be accomplished if the same wire of the speaker cable is connected to the common "C" terminal at all speakers. This wire should be connected to the common "C" terminal at the amplifier. The other wire in the cable is connected to the "H" terminal at the amplifier when using Type CV speakers, as shown in Figure 5.

After the installation is finished, a critical listening test should be made and the volume (Watts) readjusted at certain speakers where required to obtain uniform sound covering under normal noise conditions. The power consumed at each speaker will depend on the connections that have been made at the speaker *(See Speaker Installation Folder.)*

SELECT-O-MATIC SPEAKER

Set the Select-O-Matic Speaker Switch to the position which gives the best balance between the Select-O-Matic Speaker and the remote speakers with normal volume control setting. IF NO REMOTE SPEAKERS ARE USED, THE SWITCH MUST BE SET TO 16 WATTS.

The Wattage of all speakers must be added (including the Select-O-Matic Speaker) and the total watts absorbed by all speakers must not exceed 25 watts, which is the power rating of the Master-Remote amplifier. For best operation, the total watts should be not less than 6 watts (25% of rated amplifier load.) If Seeburg Type CV speakers are used, and the speaker load is 25% to 100% rated amplifier load (6 to 25 watts), no external impedance matching transformers are required. Within the limits described above, the problems of impedance matching are eliminated when using Type CV speakers on the MRA3-L6 Power Amplifier.

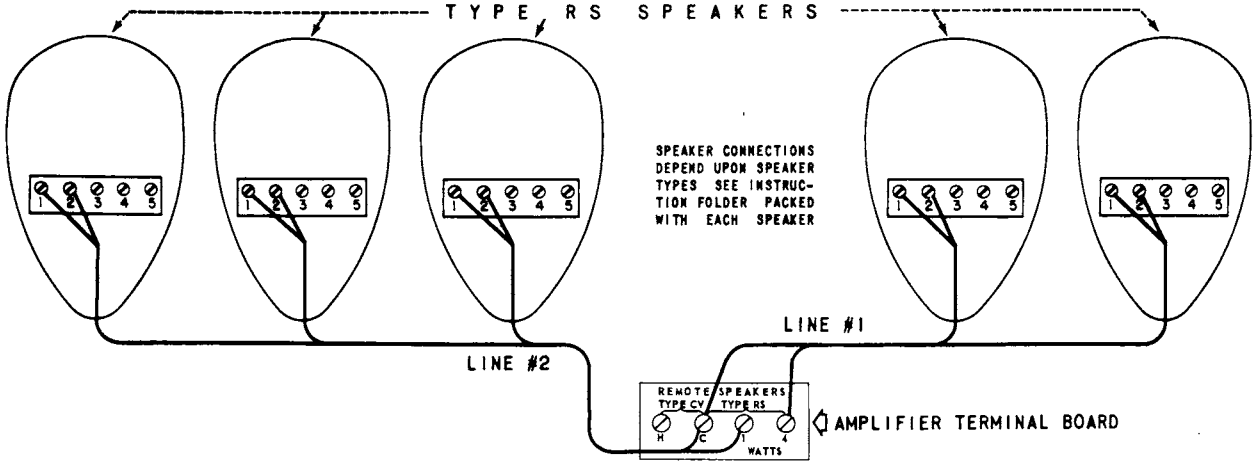


Figure 6. A Typical RS Speaker Installation

SPEAKER LOAD ON THE AMPLIFIER

Line #1:	2 (Speakers)	×	4	(watts)	= 8.0 watts
Line #2:	3 (Speakers)	×	1.5	(watts)	= 4.5 watts
Select-O-Matic Speaker					= 4.0 watts
				Total Load	= 16.5 watts

This is a satisfactory speaker load.

TYPE RS SPEAKER

If Type RS Speakers are used with the Select-O-Matic Model 100W, they may be wired as shown in Figure 6. Any group wired as shown may be connected to amplifier terminals "C" and 4 (watts) for 4 watts per speaker. Set the SELECT-O-MATIC SPEAKER switch to the position which gives the best balance between the Select-O-Matic Speaker and the remote speakers with normal volume control setting. While this arrangement is not as flexible as the Type CV method, it does permit two or more groups of speakers at two different volume levels. When using the Type RS speakers, it is necessary to add the Watts of all speakers, including the Select-O-Matic Speaker, and make sure this total wattage does not exceed 25 watts, and is not less than 6 watts.

NOTE: If the wattage of all speakers (including the Select-O-Matic Speaker) to be connected to the Master-Remote Amplifier exceeds 25 watts, an Auxiliary Remote Amplifier, Seeburg Type ARA1-L6, may be used to supply part of the speaker load, or lower volume (watts) may be used. When using CV type speakers on ARA1-L6, set the speaker matching plug to "2" and make connections to terminals marked "Speakers".

SPEAKER CONTROL TYPE NO. 25 LT-1 (Accessory)

The speaker control is a housed adjustable autoformer that may be installed in any 70 volt CV speaker line for the purpose of separately controlling the volume from any single speaker or group of speakers. In installations involving speakers in several rooms these Speaker Controls are especially useful to obtain flexibility of control.

MASTER REMOTE VOLUME CONTROL, TYPE NO. MRVC-1 (Accessory)

The Master Remote Volume Control, Type MRVC-1 comes completely wired and ready for use. It is only necessary to remove the 7-prong dummy plug from the Master Remote Amplifier and the 2-prong Cancel Plug from the Wired Selection Receiver and replace with the corresponding plugs on the cable of the MRVC-1, and dress the cable to the permanent position selected for the control unit. Screws and cable clamps furnished with this kit make it easy to do a neat, workmanlike installation.

MICROPHONE PREAMPLIFIER AND MIXER, TYPE PAK3-L56 (Accessory)

The Microphone Preamplifier and Mixer Kit, Type PAK3-L56, may be used with the Select-O-Matic Model 100W on any installation requiring the transmission of voice or live music thru the Seeburg Sound Distribution System.

TESTING

After the installation has been completed, all units should be carefully tested to see that they perform properly. Make several selections from the Electrical Selector and from each Wall-O-Matic and see that the selections made have correctly registered on the Selector Assembly. Check the quality of music, and note that music can be heard at a comfortable volume level in all parts of the service area. See that all cables are dressed into inconspicuous places to present a neat appearance and prevent mechanical damage to them.

REMOVING CARRIAGE COVER

The carriage cover must be removed for lubricating the mechanism, for servicing and for replacement of the lamp used to illuminate the escutcheon. It is removed as follows:

1. Select an odd number selection (F-1) to get pickup to the left side.
2. Cover the pickup cartridge with the plastic protective case.
3. Remove the top screw on the right hand brush holder and turn the holder until the brush is at the top.
4. Remove two oval head screws; one is on the top, and the other on the lower left side. Lift the cover straight up.

5. After replacing the lamp, carefully lower the cover over the carriage making sure the three notches at the bottom edge engage the three support studs on the carriage.

6. Fasten cover and brushes with their respective screws.

LUBRICATION

The mechanism and other mechanical parts should be lubricated periodically. Follow the lubrication chart posted on the back of the mechanism.

PICKUP STYLUSES

In order to retain good quality of reproduction it is necessary to keep the pickup and styluses clean and in good condition. *CAUTION: The pickup and styluses must be handled carefully or the delicate armature suspension may be damaged.*

When records are changed, or the equipment is cleaned the styluses and the stylus brushes should be cleaned by using the small brush furnished for this purpose and mounted in a clip on the left diffuser block.

STYLUS REPLACEMENT

The styluses used with the Seeburg magnetic pickup are tipped with natural Swiss sapphire, which is excelled in hardness and wear resistance only by diamond. However, all materials wear in the presence of friction; wear of a stylus starts with the first play and continues until the stylus is replaced. The tone quality is good and distortion remains at a low figure for the first few thousand plays but gradually distortion increases until a disagreeable amount is noticed.

When only pure vinlyite 45 rpm records are used, styluses should be changed every four or five thousand plays to maintain good quality. If, because of the presence of oil on the records, dust or dirt is permitted to accumulate and remain on the surface, the wear will be more rapid; economical operation will require more frequent stylus replacement.

If the Styluses are not replaced before objectionable distortion sets in, the records may be permanently damaged, and replacing the Styluses will not restore the original tone quality.

Because the cost of a pair of styluses is only a small fraction of the cost of a set of records, it is economically sound to replace styluses on a regular schedule rather than on a hit-or-miss basis. A schedule can be most easily determined from instrument income. The styluses should be changed according to the following table if the records are arranged for approximately equal distribution of play between the right and left sides of the pickup:

Approximate Weekly Gross Receipts:	Change Both Styluses Every:
$ 25	4 months
$ 50	2 months
$ 75	6 weeks
$100	4 weeks
$150	3 weeks

The table is based on five cents per selection and four to five thousand plays for each stylus.

TO REPLACE STYLUSES:

1. Remove the slotted-head screw at the top of the arm and remove the pickup by lifting straight up. Thread the screw into the pickup so as not to lose it.

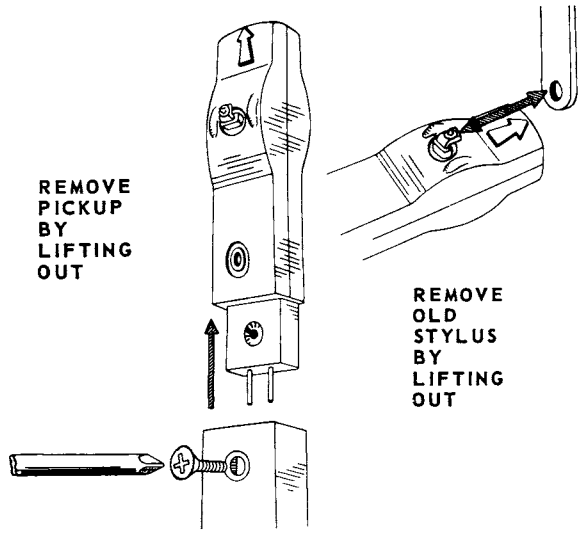


Figure 7.

2. Remove one of the installation tools (with new stylus) from the card and thread the old stylus through the hole in the rounded end of the tool. Lift out the old stylus by gently pulling STRAIGHT OUT. DO NOT USE A TWISTING MOTION OR MOVE THE STYLUS FROM SIDE TO SIDE – PULL STRAIGHT OUT.

3. Gently insert the new stylus - *DO NOT FORCE*. Slide the tool off the stylus.

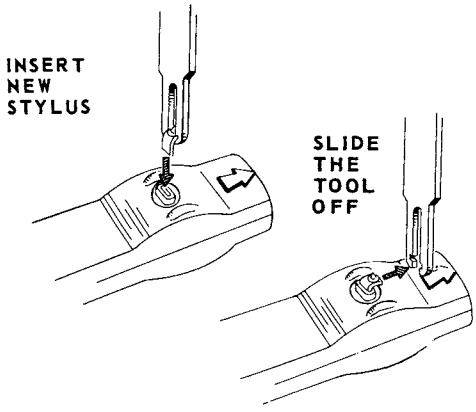


Figure 8.

4. Turn the pickup over and replace the other stylus in the same manner.

Install the pickup on the arm after checking that styluses are installed to point in direction that embossed arrows point. Tighten the holding screw firmly – check landing adjustment. Also, check the stylus brushes to make sure that they wipe the styluses lightly to remove lint and dust.

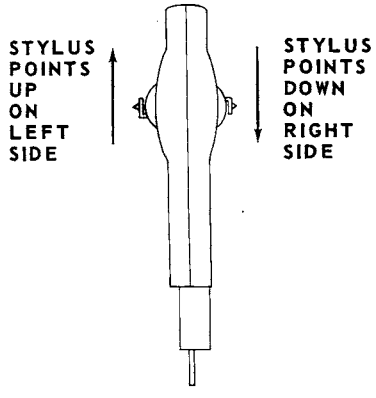


Figure 9.

RECORD CARE

To avoid accumulation of dust and dirt, keep oil off the records. Wipe your hands with a clean cloth before handling records and always handle records by edge and center hole. Records that show signs of surface dust or dirt should be wiped with a slightly dampened cloth, using a circular motion. Use only water to dampen the cloth – solvents will damage the records. Records not in use should be stored on edge in a cool place. Avoid exposing the records to excessive heat. Records become, overheated in a very short time if exposed to direct sunlight or if stored in a closed automobile or truck. Temperature above 120° F. should be avoided. See instructions on "Placing the Select-O-Matic "100".

LAMP REPLACEMENT

Access to the 25 watt (33 inch) Daylight fluorescent lamp or lamp starter is gained by removing the program assembly. To remove the fluorescent lamp rotate in either direction and lift out.

To replace the lamp behind the carriage cover escutcheon it is necessary to remove the cover as outlined in "Removing Carriage Cover".

To replace the *"Selection Now Playing" lamp* proceed as follows:

1. Select K-4 and while this record is in play position turn off the phonograph at the main switch. Swing the popularity meter cover down exposing the lamp assembly.

2. Loosen the screw which holds the light bracket to the top of the bakelite block. Slide the socket assembly to the right to clear the block. Lift out the lamp assembly.

3. Replace lamps and lightly fasten assembly in place with pigtail lug under screw head.

4. Turn on the main switch. Adjust the socket assembly by sliding the bracket to the left or right until a clean-cut rectangular window of light is centered on K-4. Tighten the screw and raise the cover to normal position.

The 20-watt, (24-inch) Daylight fluorescent lamps for pilaster lighting are part of assemblies which include the lamp starters and color screen. Each lamp is mounted on a removable strip which is accessible from the back of the cabinet. Electrical connection for the lamp and starter is made with an attachment plug and socket. A cone-shaped cup at the lower end of the assembly rests on a stud which is the upper part of a cabinet caster. The upper end of the assembly is held with a spring clip.

To replace a lamp, pull out the connecting plug and remove, from the cabinet, the entire lamp and color screen assembly. This can be done by pressing down on the spring clip and moving the upper end of the assembly toward the back of the cabinet. When the upper end is out of the pilaster, the entire assembly may be lifted from the cabinet. The upper end of the lamp is accessible for 90° rotation in either direction and withdrawal from the sockets.

When replacing the lamp and color screen, the cone-shaped cup at the bottom serves as a guide for that end as well as assuring correct centering. The spring clip at the top will snap into place for correct positioning of the upper end of the assembly.

APPEARANCE

To maintain good appearance of the phonograph, and thus keep customer appeal at its maximum level, the various pieces of glass (such as the lid, side glass, diffuser glass, and mirrors) should be kept clean. The chrome plated parts also should be cleaned occasionally. These parts include Electrical Selector, program holder, coin slot, and plated parts in the mechanism compartment.

PREPARING INSTRUMENT FOR MOVING

1. Place protective tube over pickup cartridge and install Pickup Arm shipping support.

2. Remove all records from the magazine. Position carriage on base so that the selection indicator light is behind D-1. Put three pads under the carriage wheels; then bolt the carriage to the base by means of two 2-inch long thumb screws.

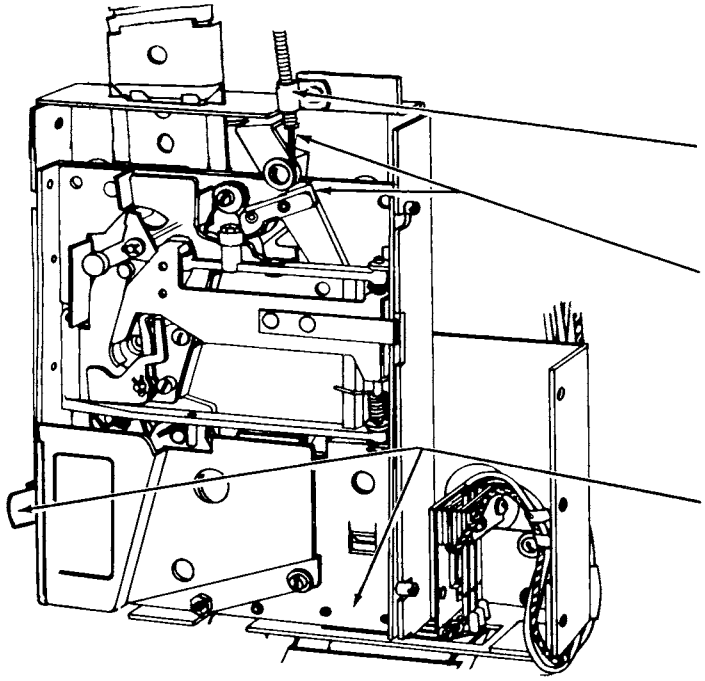
3. Put the two wood ¼" shims under the base at the mechanism hold-down bolts.

4. Tighten three mechanism hold-down nuts.

TO SHIP

If the instrument is to be shipped by way of a transportation company, it should be blocked and crated in the same manner in which it was received from the factory.

SLUG REJECTOR SCAVENGER CABLE



Adjust position of cable in clamp so plunger button at front of cabinet extends ¾"

The clamp should be positioned so the wire does not bind in the flexible cable.

End of wire should not touch surface of bracket on wiper blade.

Rejector should be held by spring clip and in mounting bracket at this corner.

Figure 10. Cable Adjustment

COIN SWITCHES

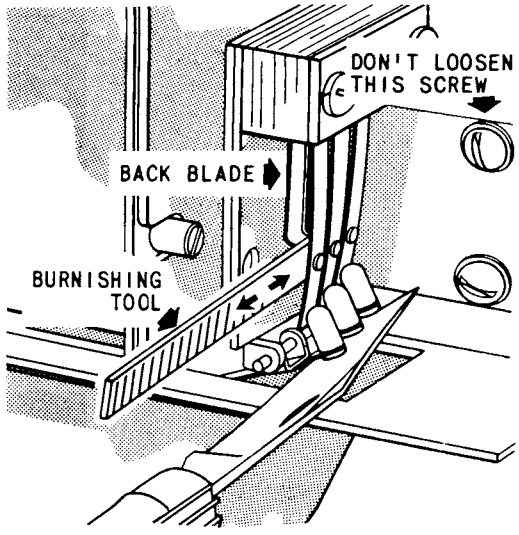


Figure 11. Coin Switch Cleaning

Clean the switch contacts carefully with carbon tetrachloride using a No. 2 camel hair brush.

Burnish by inserting a burnishing tool between the contacts, raising the switch lever with a knife blade as shown in Figure 11. *Never use a file or sandpaper for contact cleaning.*

DO NOT ATTEMPT ANY BENDING ADJUSTMENT IF THE SWITCH MEETS CONDITIONS OUTLINED ON FIGURES 12, 13 and 14.

1. Insert a dime at top of the slug rejector while supporting the switch actuating lever with a knife blade. The coin rests on the lever as shown in Figure 12.

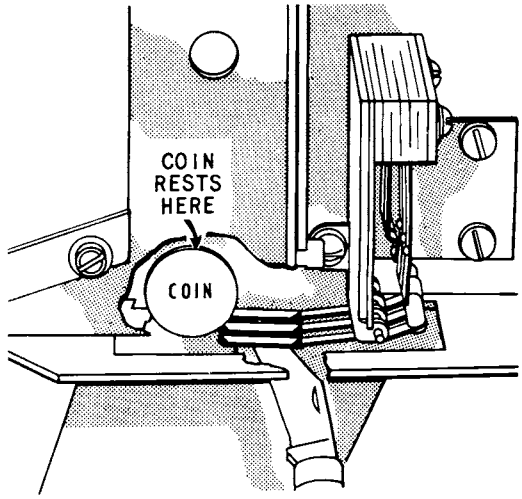


Figure 12. Coin Position

COIN SWITCHES *(Continued)*

2. Move the knife blade slowly to the right to release the coin. The contacts must come together and the back blade should move approximately 1/64" just before the coin drops through of its own weight. *(See Figure* 13).

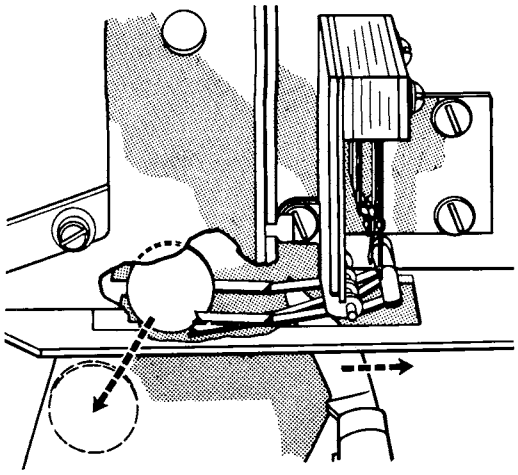


Figure 13. Coin Travel

The coin switch levers should be parallel with the opening in the gage plate and the center lever (10¢) should center on the projection of the gage as shown in Figure 14. Lateral play of the lever should be taken into account when checking the position of the 10¢ switch lever.

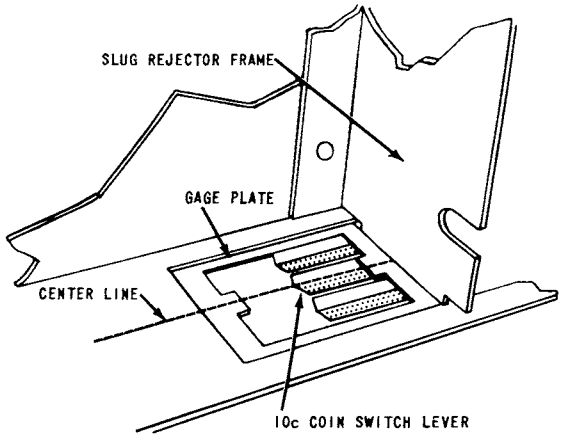


Figure 14. Coin Switch Lever Position

If the proper contact is not made or the coin does not drop through of its own weight adjustment should be made as outlined below.

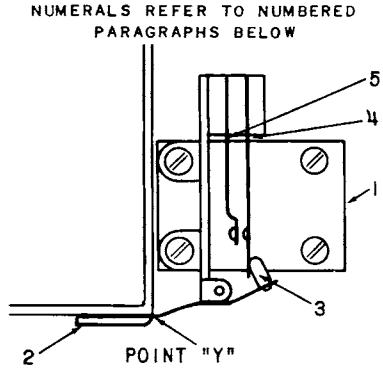


Figure 15. Coin Switch Adjustment

1. Adjust position of coin switch mounting so switch levers bear at point "Y".

2. Adjust levers to be parallel to and against bottom surface of frame.

3. Adjust switch actuating cams to be tilted approximately as shown and overlap the blade approximately 3/32".

4. Bend long blade at this point for 4 to 5 grams tension toward cam as measured at switch contact point.

5. Bend short blade at this point so it moves approximately 1/64" when coin is slowly released as in Figures 12 and 13.

NOTE: It is important that the ENDS of the bracer blades support the short contact blades support the short contact blades as shown in Figure 16.

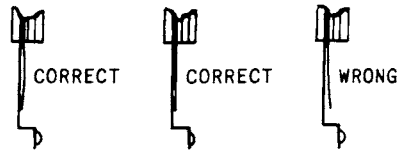


Figure 16. Bracer Blade Adjustment

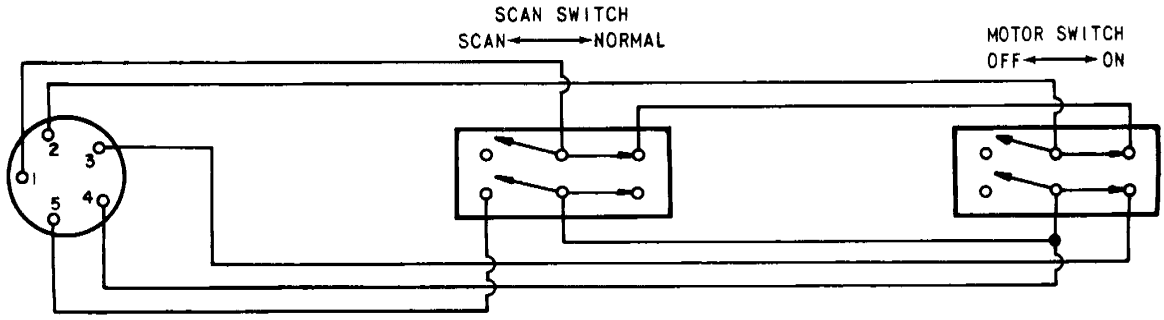


Figure 17. Schematic Diagram - Service Switches.

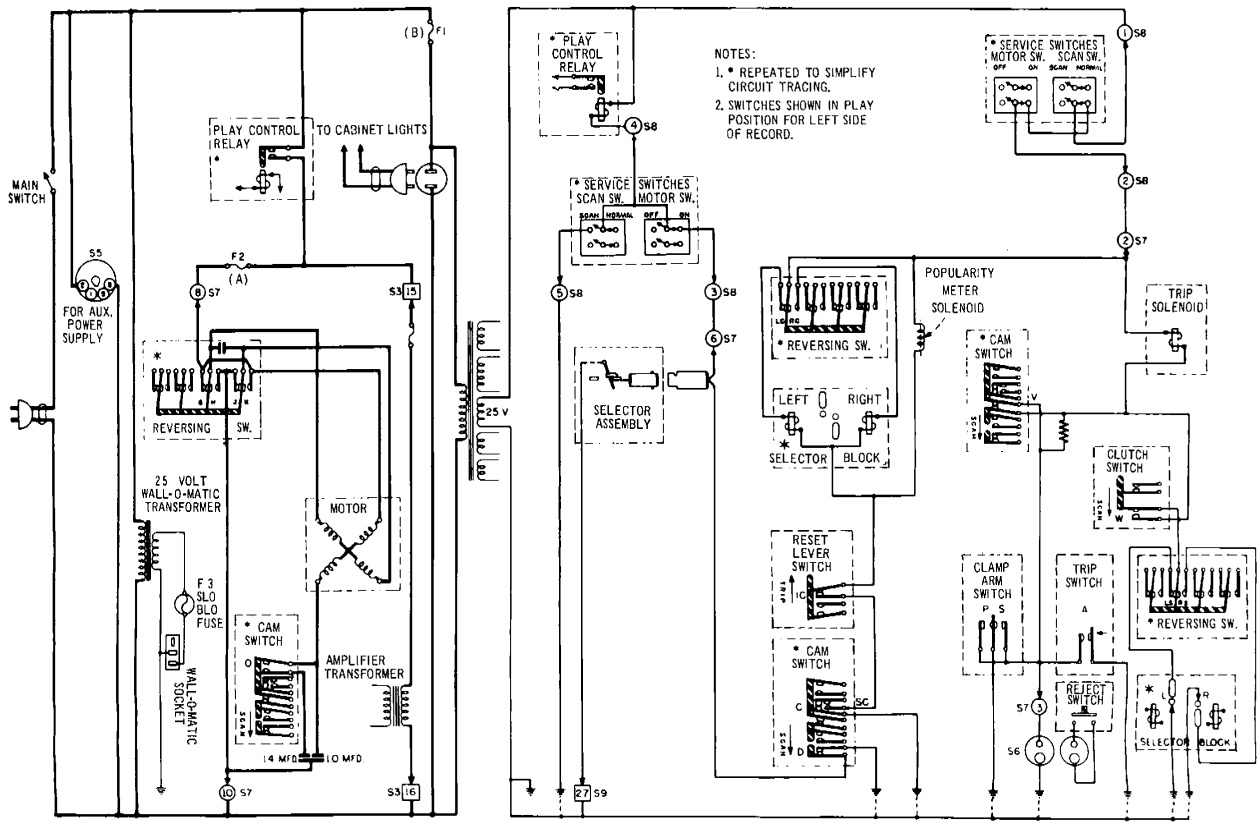


Figure 18. Schematic Diagram - Power & Control Wiring,
145S10-L6 Mechanism & WSR 5-L6 Selection Receiver.

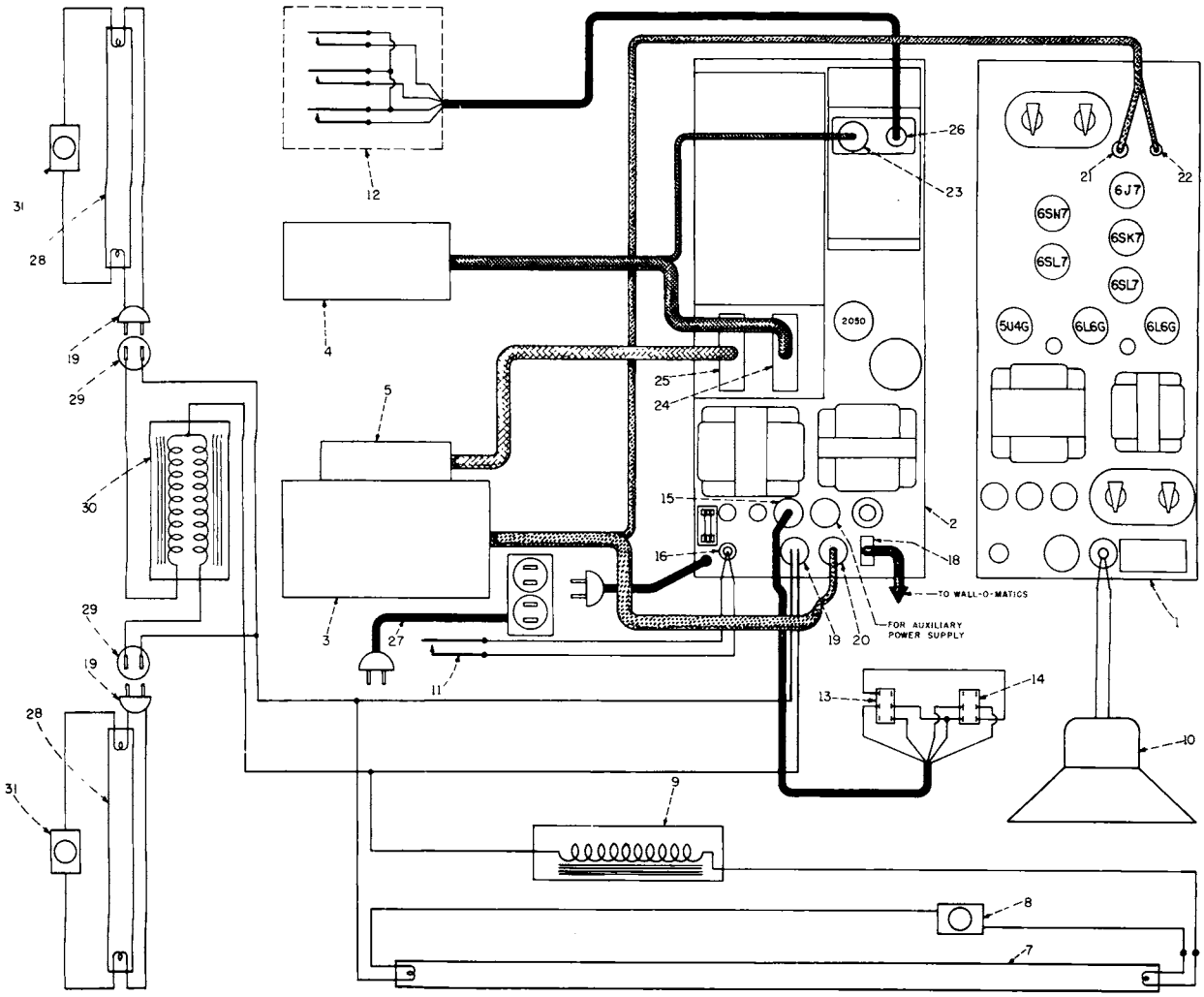


Figure 19. Cabinet Wiring Diagram.

PARTS LIST

Item	Part No.	Part Name
1	305100	Master Remote Amplifier, Type MRA3-L6
2	303230	Wired Selection Receiver, Type WSR-L6
3	246100	Select-O-Matic Mechanism, Type 145S10-L6
4	410200	Electrical Selector, Type ES10-L6
5	304450	Selector Assembly, Type 100SA7-L6
6	405138	Starter
7	405136	25 Watt Fluorescent Daylight Lamp
8	405138	Starter
9	405101	Ballast
10	404550 404553	Speaker
11	402065	Record Reject Switch
12	401506	Coin Switches
13	404671	Scan Switch
14	23261	Motor Switch
15	200241	5-prong Plug
16	402066	2-prong Plug
18	12015	3-prong Plug
19	10895	AC Plug
20	250942	11-prong Plug
21	A250938	3-prong Plug
22	K228440	Single Prong Plug
23	12028	Octal Plug
24	400844	27-prong Connector
25	F9461	27-prong Plug
26	401515	4-prong Plug (Small)
27	402152	Line Cord and Outlet Assembly
28	405547	20 Watt Fluorescent Daylight Lamp
29	F7842	AC Socket
30	405546	2 Lamp Ballast

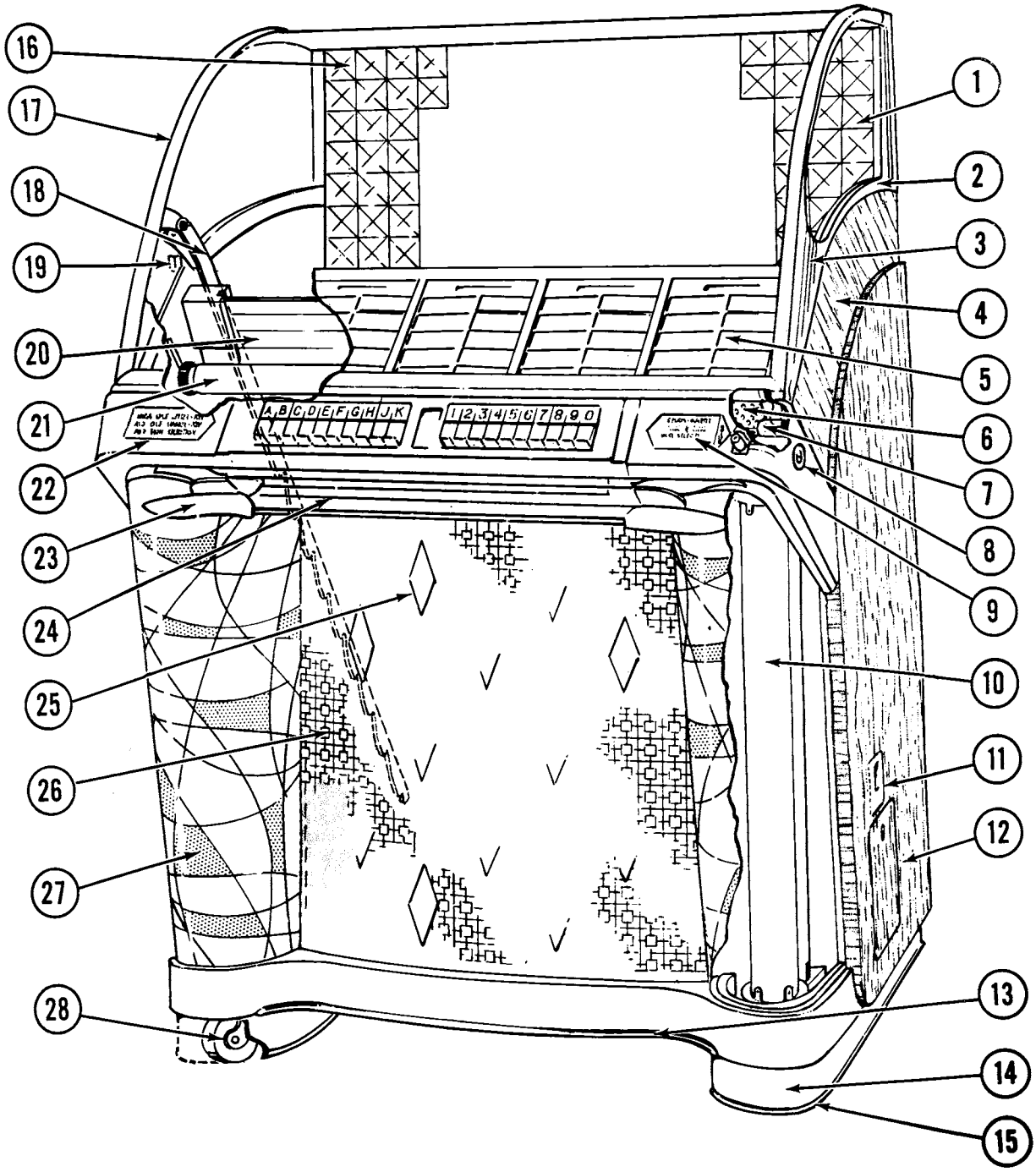


Figure 20. Front View 100W Cabinet Assembly

PARTS LIST on Reverse Side

PARTS LIST

Item	Part No.	Part Name
1 -	406077	Side Glass
2 -	406063	Side Glass Mldg. L.H. (Outside)
	406062	Side Glass Mldg. R.H. (Outside)
	77274	No. 6 x ¾ Phillips F.H.W. Screws
	406242	Side Glass Retainer (Inside)
	77204	No. x 5/8 Phillips Oval (Hd. W. Screw)
3 -	406030	Side Glass Support (Front Brkt.) R.H.
	406031	Side Glass Support (Front Brkt.) L.H.
	406307	Side Glass Clamp (Back)
	70647	6/32 x ¼ Phillips R.H.M. Screw
4 -	406380	Silver Zebrano Decal (Light) (49" x 34 ¼")
	406381	Silver Zebrano Decal (Dark) (Die Cut - R.H.)
	406382	Silver Zebrano Decal (Dark) (Die Cut - L.H.)
	406383	Silver Zebrano Decal (Dark) (Band 2 5/8 x 34")
	406384	Silver Zebrano Decal (Dark) (Special)
5 -	406245	Prog. Holder & Frame Assembly
	406140	Frame Rail
	406142	Frame Rail Sides
	406300	Program Glass - (A1-B10)
	406301	Program Glass - (C1-D10)
	406302	Program Glass - (E1-F10)
	406303	Program Glass - (G1-H10)
	406304	Program Glass - (J1-K10)
	406051	Program Holder Assem. (A-B)
	406014	Program Holder Only
	406050	Program Holder Spring
	404675	Retainer Washer
	72158	(7/16 x .140 x .031) Flatwasher
	406052	Program Holder Assem. (C-D)
	406053	Program Holder Assem. (E-F)
	406054	Program Holder Assem. (G-H)
	406055	Program Holder Assem. (J-K)
	406056- thru 406060	Program Identification Labels
	406320 thru 406335	Classification Heading (Sold in Sets Only)
6 -	406229	Vent Screen Front
7 -	405138	Fluorescent Light Starter
	404631	Starter Socket
8 -	406040	Lid Lock - L.H.
	406041	Lid Lock - R.H.
	406042	Lid Lock Bolt
	406043	Bolt Pivot Bar
9 -	406200	Coin Window (6 Play - Quarter)
	406201	Coin Window (3 Play - Quarter)
10 -	406223	Lamp Assembly
	405793	Lite Cable Assembly
	406367	Fluorescent Tube (20 Watt Daylite)
	406346	Tube Sleeve Assembly
11 -	406110	Slug Receptacle Assembly
	406085	Slug Receptacle Only
	406109	Slug Receptacle Side Wall
12 -	406338	Cash Door Assembly
	406086	Cash Door Only
	406340	Cash Door Lock
	406095	Lock Reinforcing Channel
13 -	406164	Cabinet Base Trim Strip
14 -	406167	Base Plate Covering
15 -	406165	Base Trim Strip - R.H.
	406166	Base Trim Strip - L.H.
16 -	406238	Mirror Assembly - R.H.
	406239	Mirror Assembly - L.H.
	406177	Flex-Glass Mirror Only - R.H.
	406178	Flex-Glass Mirror Only - L.H.
17 -	406248	Cabinet Lid Assembly
	406016	Cabinet Lid Glass
	406064	Lid Hinge
	406017	Cabinet Lid Frame - R.H.
	406018	Cabinet Lid Frame - L.H.
	406083	Cabinet Lid Frame - (Top)
	406084	Cabinet Lid Frame - (Bottom)
18 -	406251	Lid Support
19 -	406090	Side Glass Clamp - R.H.
	406091	Side Glass Clamp - L.H.
	406368	Spring
	406065	Program Frame Latch - R.H.
	406066	Program Frame Latch - L.H.
	406067	Program Frame Latch - Spring
20 -	406253	Diffuser Glass 30" Long
	406424	Diffuser Glass 31 ¾" Long
21 -	405136	Fluorescent Tube (25 Watt Daylite)
	406645	Light Socket (2)
	406228	Cable Assembly
22 -	406180	Instruction Window (Press one Letter)
23 -	406025	Ornaments - L.H.
	406026	Ornaments - R.H.
24 -	406104	Cabinet Corner Casting - R.H.
	406106	Corner Channel Casting - R.H.
	406105	Cabinet Corner Casting - L.H.
	406107	Corner Channel Casting - L.H.
	70775	10-32 x 3/8 Phillips Flat H.M. Screw Steel Chrome Plated
	70776	10-32 x 3/8 Phillips Oval H.M. Screw Steel Chrome Plated
	406021	Selector Frame Center
25 -	406029	Grille Ornament
	406370	Rubber Bumper
	70207	Speed Nut
26 -	406179	Grille Cloth
	406345	Grille Assembly
27 -	406100	Pilaster - R.H.
	406101	Pilaster - L.H.
28 -	405774	Caster Socket
	402588	Caster (Metal Wheel)
	405773	Caster (Composition Wheel)

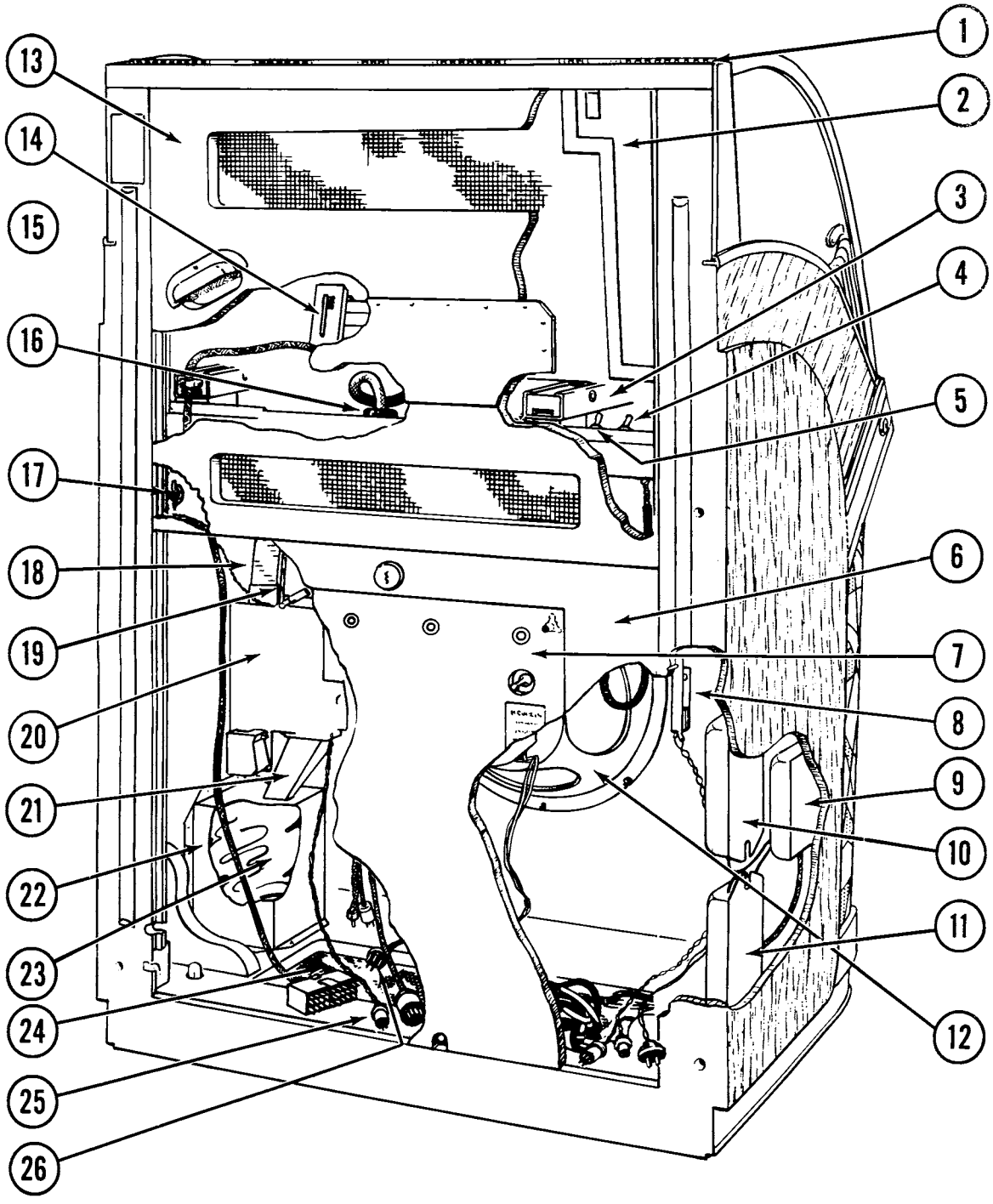


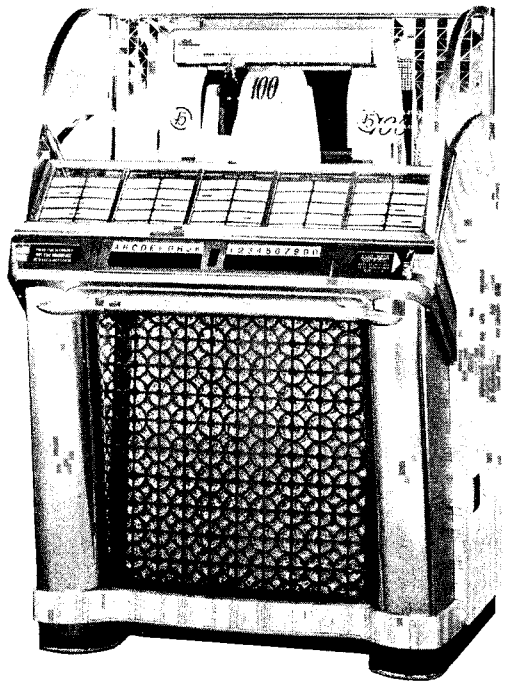
Figure 21. Back View 100W Cabinet Assembly

PARTS LIST on Reverse Side

PARTS LIST

Item	Part No.	Part Name
1 -	406046	Cabinet Hinge Rail
2 -	406238	Mirror Assembly, R. H.
	406239	Mirror Assembly, L. H.
	70659	6-32 x 3/8 Phillip R.H.M.S. (Finish Hd.) (Red)
	70660	6-32 x 1 1/8 Phillip R.H.M.S. (Finish Hd.) (Red)
3 -	406233	Channel Support Post, R. H.
	406234	Channel Support Post, L. H.
	406235	Channel Block Rear
	406236	Channel & Pin Assembly
	405196	Chassis Lock Pin
	405203	Retaining Ring
	406237	Channel Support Bracket, Upper
4 -	404671	Scan Switch
5 -	23261	Motor Switch
6 -	406119	Back Door Assembly (Lower)
	406123	Rear Door Lock
	404320	Tee Nut
	404321	Eye Bolt
7 -	406445	Lower Rear Door Cover Plate Assem.
8 -	405654	Record Reject Switch Assem.(Complete)
	402065	Switch
	405742	Cable and Plug Assembly
	402064	Pin (Reject)
	77242	No. 5 x ¾ Phillip R.H.W.S. (2)
	15037	Cable Clamp (Switch Stop)
	77243	No. 6 x 3/8 Phillip R.H.W.S. (2)
	402066	2-Prong Plug
9 -	402152	Line Cord & Outlet Assembly
10 -	405546	Fluorescent Lite Ballast (Dual 20 Watt)
11 -	405101	Fluorescent Lite Ballast (25 Watt)
12 -	404550	Speaker (Jensen)
	405242	Speaker (Utah)
	404553	Speaker (Magnavox)
	402430	Speaker Plug
13 -	406120	Upper Rear Door Assembly
	406122	Upper Rear Door Only
	404619	Rear Door Clamp, R.H.
	404620	Rear Door Clamp, L.H.
	406443	Upper Rear Door Cover Plate
	406441	Upper Rear Vent Screen (Lower)
	406442	Upper Rear Vent Screen (Top)
	406169	Rear Door Trim (Small)
	406170	Rear Door Trim (Large)
	406444	Handle
14 -	405219	Pickup Brush
	405220	Brush Holder
15 -	15037	Cable Clamp
16 -	405204	Rubber Grommet
17 -	404619	Upper Rear Door Clamp, R.H.
	404620	Upper Rear Door Clamp, L.H.
18 -	401625	Coin Chute
19 -	401740	Scavenger Wire & Plunger Assembly
	401741	Scavenger Wire & Housing
	401223	Plunger Return Spring
20 -	401731	Slug Rejecter Mounting Frame Assembly
	404731	Slug Rejector
	401255	Slug Rejector Mounting Stud
	401506	Coin Switch & Cable Assembly
	401314	Coin Switch Only
21 -	401298	Lower Coin Chute Welded Assem.
22 -	406096	Cash Box Welded Assembly
	405745	Cash Box Lock Plate
23 -	404659	Cash Bag
24 -	406440	Floor Vent Screen
25 -	401515	4-Prong Plug (Coin Switch)
26 -	402430	6-Prong Speaker Plug

SEEBURG
SELECT-O-MATIC "100"
DELUXE HIGH FIDELITY
MODEL HF100G



The Select-O-Matic "100", Model HF100G, is a coin-operated phonograph using the Seeburg Select-O-Matic Mechanism for selective playing of either or both sides of fifty 45 r.p.m., 7-inch records. Choice of any of the one hundred selections may be made at the instrument with an Electrical Selector or by remote control with 100-selection 3-wire Wall-O-Matics. A program holder using standard size title strips displays the entire hundred selection program and may be removed as a complete unit or in sections of 20 titles.

The program title strips are back-lighted by a 25-watt fluorescent lamp which also illuminates the mechanism, the speaker grille, and the electrical selector escutcheons. The pilasters are of chrome metal.

The cover glass through which the mechanism may be seen is hinged and opens for changing records and title strips. The cover is retained at any position of opening by a self-locking support rod. Service Switches, a Popularity Meter and a Selection Counter are accessible with the cover open. The Service Switches are used to operate the mechanism when servicing the instrument. The Popularity Meter which is a part of the mechanism indicates the number of times (up to 50) each record is played. The Selection Counter which is part of the Electrical Selector totals the number of selections made with the Electrical Selector and with remote control Wall-O-Matics.

Coins are deposited in a single entry coin chute and pass through a 5-, 10-, 25-cent slug rejector to the coin switches. The coin switches are connected for one play for a nickel, two plays for a ten-cent piece or six plays for a quarter. The coins are stored in a canvas bag which has a capacity of approximately one-hundred fifty dollars. The bag is removed through a small door at the lower right side of the cabinet.

A Seeburg Magnetic Pickup with one-quarter ounce stylus pressure assures long record life and high quality reproduction unaffected by temperature or humidity conditions. A 25-watt High Fidelity Amplifier connects to a 15" dynamic low frequency speaker and a 5" permanent magnetic high frequency speaker in the cabinet. A terminal strip is provided for connection of High Fidelity Type Remote Speakers.

The amplifier incorporates an automatic volume compensator to provide uniform volume level and avoid "blasting" due to "loud" records. A single volume control is used to adjust the volume of sound from the phonograph speaker and the remote speakers. Provision has been made for plug-in connection of a remote volume control that may be up to a hundred feet from the Select-O-Matic without introducing hum or causing distortion.

A Selection Receiver supplies power for remote control Wall-O-Matics and incorporates the switches and relays for operation from remote points as well as from the Electrical Selector. It is equipped with convenient sockets for plug-in connections of the mechanism, cabinet lighting, amplifier, and control circuits.

The Selection Receiver and the Amplifier are mounted in a vertical position on the inside of the cabinet rear door. The door may be opened for access to the tubes and fuses or it may be fully removed. The units are fastened over an opening which is covered by a steel plate. The plate, which is held in place with wing nuts, may be removed to expose the tube socket and plug connections and the interior wiring of the units for test during normal operation.

A selection cancel switch, effective only when a record is playing, is operated by a small, inconspicuous button on the back near the left side of the cabinet. A remote cancel switch or button may be substituted by plug-in connection to the selection receiver.

SPECIFICATIONS

Power Requirements:

117 volts A.C., 60 cycles
Standby (without Wall-O-Matics) - 85 watts
Operating (without Wall-O-Matics)- 230 watts

Cabinet Lighting:

1 - 25-watt, 33-inch, Daylight Fluorescent (FS25 Starter.)

Cabinet Key Number.....F221

Record Capacity.....50 records (100 selections)
Record Type.....45 rpm
7-inch diameter, 1.5-inch center hole.

Pickup.....Seeburg Magnetic
Speakers: .15" Electro-dynamic(Low Frequency)
5" Permanent magnetic (High – Frequency)

Finish: Silver Zebrano PlasticVeneer.

Coin Equipment:.....5-, 10-, 25-cent Single Entry Slug Rejector.

Amplifier:
8-tube High Fidelity Constant Voltage Type with Automatic Volume Compensation.

Audio Power Output (at full volume):
To Phonograph Speakers (adjustable).....
.....¼ to 16 watts

To Remote Speakers.....24 watts, max.
Maximum total to Phonograph Speakers & Remote Speakers.....25 watts

Major Component Assemblies:
Type 145S11-L6 Select-O-Matic Mechanism with
Type 100SA7-L6 Selector Assembly
Type ES10-L6 Electrical Selector
Type MRA4-L6 High Fidelity Master Remote Amplifier
Type WSR5-L6 Wired Selection Receiver

Remote Control:

Type.....Seeburg, 3-wire "Wall-O-Matic 100"
Nominal operating voltage.....25
Power source for Wall-O-Matics.....Selection Receiver or Aux. Power Supply (Type PS6-1Z)

Maximum Number of Wall-O-Matics powered by Selection Receiver.....6
Maximum Number of Wall-O-Matics powered by each Aux. Power Supply.....6

Remote Speakers: High Fidelity Type

Tubes:
1 - 5879
1 - 6SN7
1 - 6SK7
1 - 6SL7
1 - 12AX7
2 - 6L6GT
1 - 5U4G
1 - 2050

Fuses:
1 - 5 amp. 3AG
1 - 3 amp. 3AG
2 - 2 amp. 3AG SLO-BLO
1 - 3 amp. Fustat

Dimensions:

Height..... 54 Inches
Width..... 35 Inches
Depth..... 27 Inches
Net Weight.....325 Pounds
Shipping Weight.....*405 Pounds*
Record Weight, 50 Records, approx. 3 Pounds

INSTALLATION AND OPERATION

DAMAGE CAUSED BY SHIPPING

Examine the instrument immediately after unboxing. If any damage is found, notify the transportation representative and get his signature on the transportation bill with notation of damage.

ELECTRONIC EQUIPMENT

The electronic equipment is mounted on the lower rear door. This door is hinged and can be swung out to permit access to coin equipment and to tubes, tone controls, plugs, etc., on the front of the electronic equipment. The cover plate on the rear of the electronic equipment can be removed by unscrewing three thumb nuts and loosening the screw at the lower center of the plate. *(NOTE: It is not necessary to remove this screw.)* The electronic equipment may be completely serviced while the phonograph is operating without removing it from the cabinet. Normally the opening of the lower rear door is limited by a chain. The chain can be unhooked and, if plugs at the upper end of the chassis are removed, the door can be swung open until it rests on the floor. The entire door can also be removed by removing all plugs and unhooking the chain, then lifting the assembly up and out toward the rear.

CABINET LID SUPPORT

The cabinet lid may be lifted to any required opening for access to the mechanism and the service switches. A notched support rod is attached to the lid and lifts with it. One of the notches in the rod hooks into and locks in a latch plate when the weight of the raised lid bears on it. A spring assures positive engagement of the rod by the latch plate and prevents accidental release by bumping or jarring. To

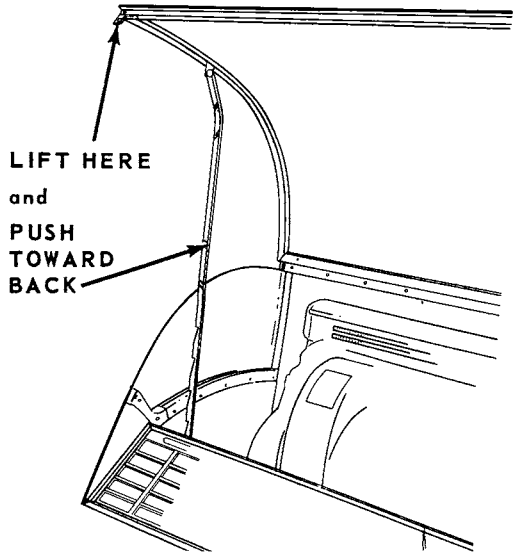


Figure 2.

lower the lid, it must first be lifted while pressing the support rod toward the back of the cabinet.

UNBLOCKING

Before placing this phonograph into operation it is necessary to remove or loosen certain shipping hardware used to safeguard the mechanism during transit. Carefully follow instructions on the tags found in several places in the instrument and remove blocks and shipping supports accordingly. *CAUTION: Do not attempt mechanism operation by manually turning the flywheel-this may damage the mechanism. Use the service switches!*

DO NOT PUT PACKING BLOCKS, INSTRUCTION CARDS, OR ANY OTHER MATERIAL ON THE AIR INTAKE SCREEN IN THE FLOOR OF THE CABINET, AS THIS WILL OBSTRUCT VENTILATION AND CAUSE OVERHEATING. SUCH OVERHEATING MAY WARP RECORDS AND SHORTEN THE LIFE OF THE EQUIPMENT.

TUBES AND PLUGS

This instrument is shipped with tubes and plugs installed. In shipment they may loosen; for this reason, it is well to see that they are all firmly seated in the sockets before inserting the line cord.

VOLTAGE RATING

Before connecting the line cord to a light socket or outlet make certain that the voltage and frequency on the meter box at the location agree with the markings of voltage and frequency on the instrument name plate.

PLACING THE SELECT-O-MATIC "100"

To obtain best performance and long service from this equipment, it should be placed on a firm, reasonably level surface away from excessive moisture and heat.

WARNING: To prevent warping records place phonograph where the records will not at any time be exposed to direct sunlight or any other radiant heat. Do not reduce ventilation by obstructing the vent screens.

A space of at least two inches must be allowed between the back of the cabinet and the wall, so as to assure adequate ventilation.

SERVICE SWITCHES

Two service switches are located in the mechanism compartment, on the left side, below the mechanism support bracket. The two-position toggle switch toward the back controls the mechanism motor. The spring return toggle switch toward the front scans the carriage. When the motor switch lever is set toward the front, the mechanism will not operate even though selections are "set up" on the Selector Assembly. The motor switch lever must be toward the back for normal operation. The scan switch lever, when held toward the front, causes the carriage to scan past selections which may be set up on the Selector Assembly. The scan switch can be used to move the carriage when the motor switch is in its "off" position.

LOADING RECORDS

To obtain optimum performance and supply your customer with the best in recorded music it is necessary that only new or nearly new records be used on the HIGH FIDELITY Model HF100G Select-O-Matic. Only standard 7-inch commercial 45 rpm record may be used. Occasionally, records will be found that have an undersize center hole. This is caused, in some cases, by the paper label being pushed into the center hole. If the record center hole is undersize, such a defective record may stick on the record center pin.

Throw the main switch "on" (accessible through hole in rear door). Set the motor switch to the forward position; this keeps the carriage from operating even though credits are established on the Selector Assembly. (See Service Switches.) Hold the scanning switch in the forward position until the carriage is near the right hand end of base. Release the scanning switch.

Starting at the left end of the magazine (A-1, A-2), *insert one record in each record space.* The left side of all records will be the odd number selections. Thus A-1, A-5, B-7, C-3, D-1, etc., all will be left sides, and A-2, A-6, B-8, C-4, D-2, etc., will be right sides of records. *CAUTION: Do not force records into record spaces!* Any normal record will roll very freely into record spaces. A record which is warped badly enough to have any tendency to bind in the magazine space would not be properly played in any automatic mechanism and should not be used.

When the left half of the magazine has been loaded with records, scan the carriage to the left end of the base and load the right half of the magazine. *After the magazine has been loaded, set the lower service switch to the "down" position.*

PROGRAM HOLDERS

The complete Program Holder is removable from the cabinet. Open the cabinet lid, setting the support as shown in Figure 2. Press upward on the catches at each end of the Program Holder and pull the complete assembly toward you. See Figure 4. The individual program holders can be removed separately as desired by hooking a finger under the top of the holder and sliding it out of the guides.

A complete set of title strips is provided with the instrument. These can be found in the cash bag. Title strips are loaded into program holders by sliding the strip into the desired

slot. The record titles for both sides of a record record are to be put on one individual double strip, with the title for left side on the upper half of the strip and the title for the right side on the lower half of the strip. Thus when a record is inserted in the magazine the selection corresponding to the top title will face left. Spare classification headings are provided and will be found in the cash bag. Classification headings can be changed in the program holder by sliding the retainer springs up onto adjoining ledges and replacing the classification heading.

AUDIO CONTROLS

The Master Remote High Fidelity Amplifier is equipped with a keyed volume control which is accessible through a hole in the rear door. It is inoperative when a remote volume control is used.

Bass and treble controls are located at the top of the amplifier panel and are accessible by opening the rear door. Room size and wall coverings determine the proper setting for each control. With typical records and location, very realistic reproduction is obtained by setting Bass on No. 3 and setting Treble on No. 3. Treble boost is obtained on No. 4 and rather severe Treble cut is had on No. 1.

AUTOMATIC VOLUME COMPENSATOR

An automatic volume compensator is incorporated in the amplifier. It compensates for the variations in the average volume levels of different records and makes possible a volume control setting for normal records without danger of blasting or high volume due to exceptionally "loud" records. A 4-position switch on the amplifier provides a choice of degree of volume compensation from zero (off) to maximum.

Operation of the compensator may be checked by removing the muting circuit plug from the amplifier while records are playing. Normal operation is indicated if, when the plug is taken out, the sound from a low volume record will fade almost completely away; that from a record of average volume will decrease in loudness. Little effect will be noted if a "loud" record is being played when the plug is pulled out. The change in volume, if any, will take place slowly, not suddenly when the muting plug is pulled out and replaced. Approximately six to eight seconds will be required to restore the volume to the original level after the plug is replaced.

POPULARITY METER

A popularity meter is provided behind the "Record Now Playing" indicator at the top of the magazine. It is exposed to view by swinging the cover downward past the front of the "Record Now Playing" indicator. The popularity of each of the fifty records is indicated by 50 indicator wheels. Each wheel is calibrated from 0 to 50 and shows approximate total number of plays (both sides) the corresponding record has had.

For a quick check of record popularity, the indicating wheels are part blue and part aluminum finish. Less than 10 plays are shown in the blue area while 11 or more are indicated in the aluminum area.

TO RESET THE POPULARITY METER

The lever at the right hand end of the meter partially resets the wheels each time it is pressed and released. It should be operated until all the wheels indicate zero.

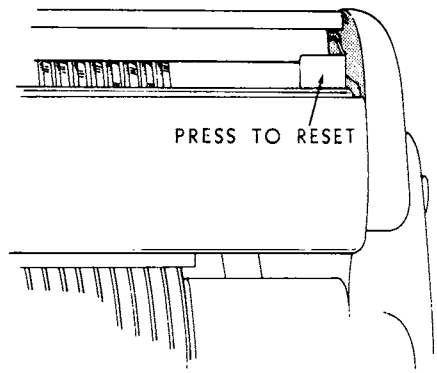


Figure 3.

SELECTION COUNTER

A selection counter is built into the right side of the electrical selector. This counter totals SELECTIONS made from the electrical selector and Wall-O-Matics. The counter may be read by opening the glass lid and pulling the program holder forward as shown in Figure 4.

Although this counter is intended primarily as a selection counter, the approximate total value of coins received in the phonograph and Wall-O-Matic cash boxes may be figured as follows (assuming six plays for a quarter):

1. Subtract the present counter reading from the last reading. (The reading taken when the cash boxes were last emptied.)

2. From this figure subtract the total number of quarters in all cash boxes (phonograph plus all connected Wall-O-Matics.)

3. Multiply by .05 to obtain value in dollars.

EXAMPLE:

Present counter reading	11792
Last counter reading	10680
Difference	1112
Number of quarters	78
	1034
	x.05
Approximate cash	$51.70

NOTE: The counter may register slightly higher or lower than the actual number of selections, because of the multiple count during simultaneous operation of two or more wall boxes.

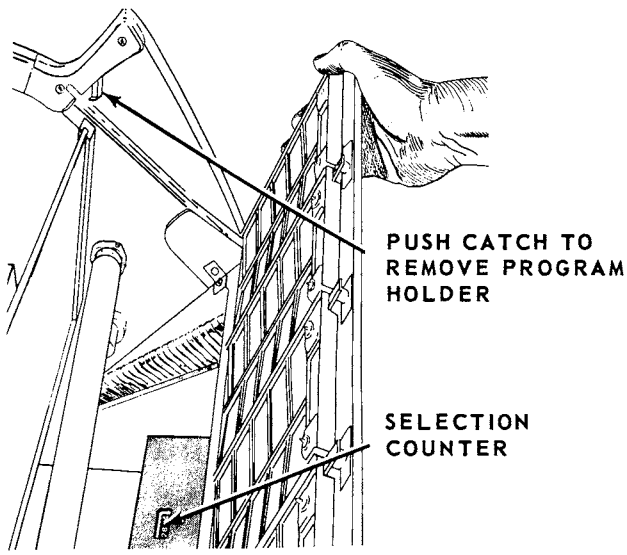


Figure 4.

WALL-O-MATIC "100"

The remote choice of 100 selections is made possible by the Wall-O-Matic "100" which pulses the Selection Receiver to register selections on the Select-O-Matic "100" Mechanism. A sufficient number of these units should be used and placed to provide convenient selection from all parts of the location.

Power to operate up to six Wall-O-Matics is available from the Wired Selection Receiver. When more than six Wall-O-Matics are used, additional power supplies (Type PS6-1Z are required. For each power supply that is added, six additional Wall-O-Matics may be used.

The wiring of the Wall-O-Matics is facilitated by the use of special cable, *Seeburg Part No. 12015*, which is available in continuous lengths as required. Details of wiring and installing the Wall-O-Matic "100" are included in the instruction folder shipped with each Wall-O-Matic "100".

Bar Bracket Assembly, *Seeburg Part No. 500185*, is available for rigidly mounting the Wall-O-Matic on bars, counters and tables.

SPEAKERS

The audio output of the Master Remote High Fidelity Amplifier operates the dual speakers mounted in the Select-O-Matic cabinet. A 15 inch (low frequency) and a 5 inch (high frequency) speaker provides wide frequency range. The audio output is also terminated in an amplifier terminal board for powering High Fidelity type remote speakers.

The audio system is of the "constant voltage" type, in which the amplifier output does not change when the speaker load is varied. This means that the volume from any speaker in the system will not change noticeably when other speakers are added or removed. It also facilitates adjustment of volume at each speaker; connections and speaker runs are simplified and, within certain limits, impedance matching problems are eliminated.

Except in very small locations, adequate distribution of sound at uniform level thru-out the service area can be obtained only by careful placement of a sufficient number of High Fidelity remote speakers.

A total of 25 watts of audio power is available from the MRA4-L6 amplifier which is used in the Model HF100G. This power can be divided in various proportions between the cabinet speakers and High Fidelity Type Remote Speakers.

In order to preserve the high quality obtainable from the MRA4-L6 High Fidelity Amplifier when remote speakers are to be used, the following types must be used:

A. Type HFAS2-12 Recessed Speaker (Grill type for wall or ceiling mounting-16 ohm, 8 watts).

B. Type HFAS3-8 Corner Speaker (Wood Cabinet - ceiling corner or floor mounting-16 ohm, 8 watts).

C. Type HFCV1-8 Corner Speaker (Wood Cabinet - ceiling corner or floor mounting-70-Volt Constant Voltage Type).

CONNECTION OF HIGH FIDELITY REMOTE SPEAKER

1. If 16 ohm, 8 watt type High Fidelity Speakers are to be used, only a maximum of 2 may be connected to this amplifier. They are connected in parallel directly to terminals L and G on the amplifier. See Figure 5. With this connection 8 watts will be available at each speaker. Wire Size and line lengths are given below:

WIRE SIZE A.W.G.	SEEBURG PART NO.	MAXIMUM LINE LENGTH (FOR 10% POWER LOSS)	
		1 Speaker 8 Watts	2 Speakers 16 Watts
24	502090	32 feet	16 feet
22	–	50 feet	25 feet
20	*502294	80 feet	40 feet
18	51941	140 feet	65 feet
16	*502229	200 feet	100 feet
14	–	320 feet	160 feet
12	–	500 feet	250 feet

* SHIELDED

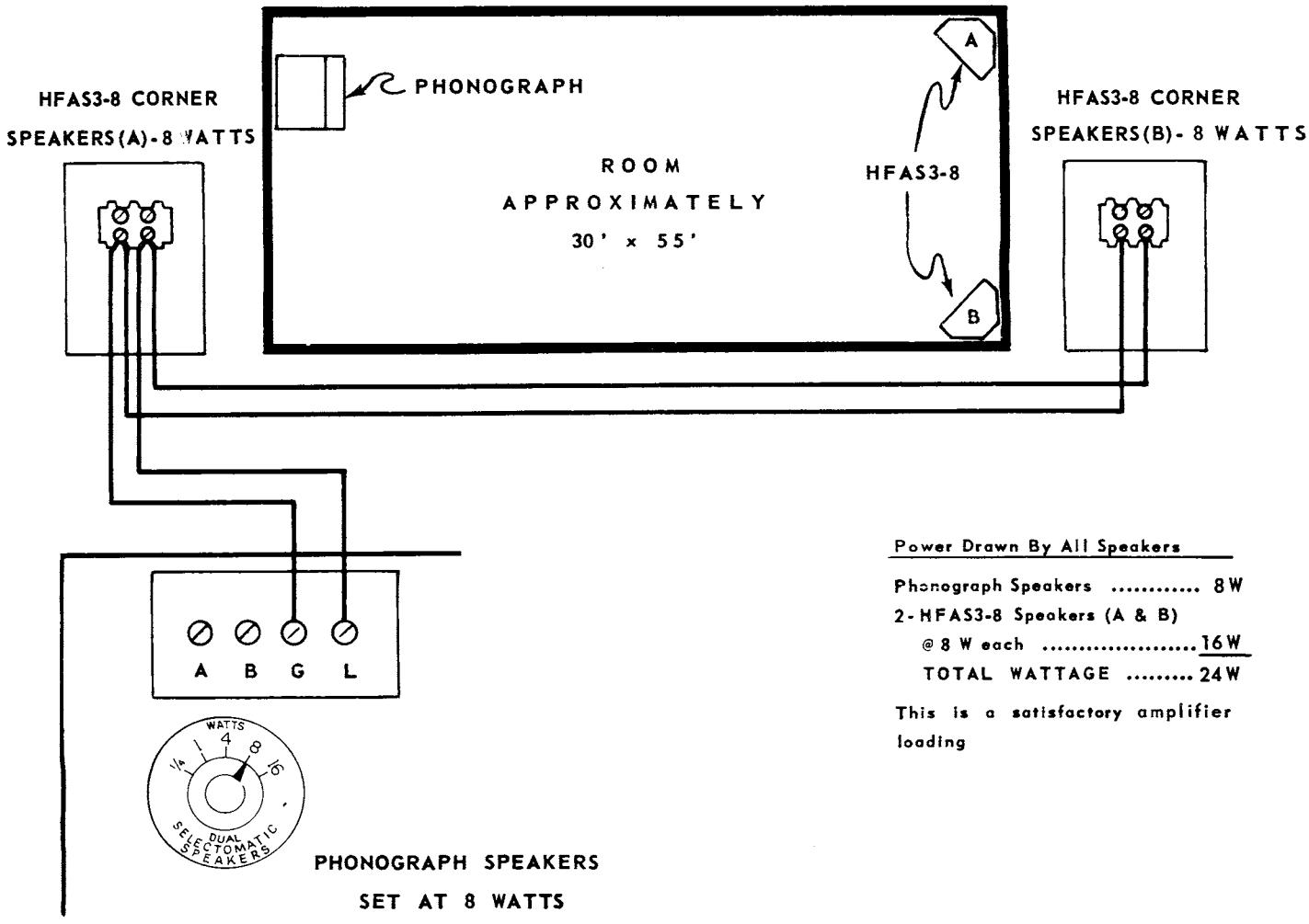
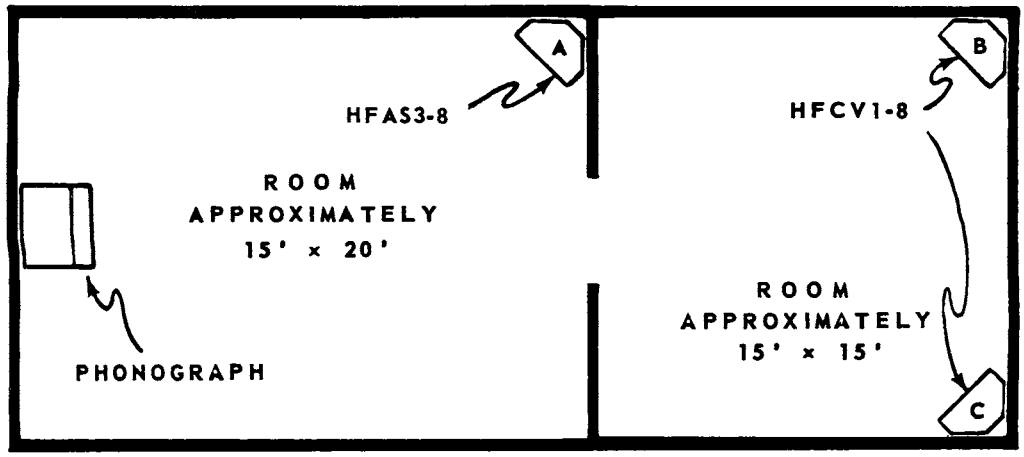


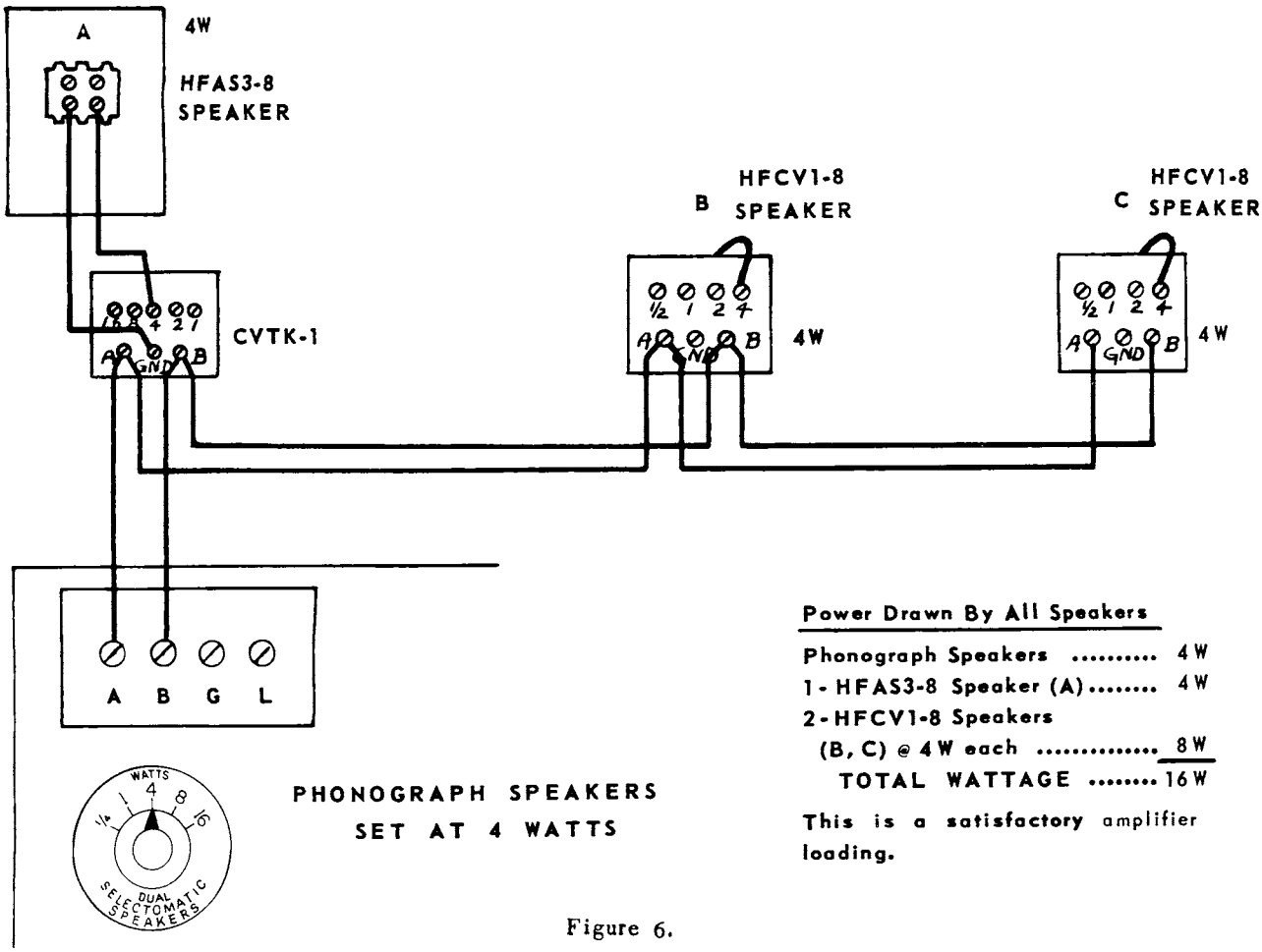
Figure 5.

2. If the proposed speaker line is too long for practical wire size, or if more than 2 speakers are needed, convert the speakers to CV operation by installing one or more transformer kits; Type CVTK-1. See Figure 6. Connect the CVTK-1 line to terminals A and B on the Amplifier. See CVTK-1 instruction folder packed with each kit.

3. Constant Voltage Type High Fidelity Speakers are connected to terminals A and B of the Amplifier. See Figure 6. A load of 16 watts can be carried by No. 24 wire (Part No. 502090) for line lengths up to 600 feet.

   For wiring of Speakers, See instruction folder packed with each speaker and kit.





PHONOGRAPH SPEAKERS SET AT 4 WATTS

Power Drawn By All Speakers

Phonograph Speakers	4 W
1 - HFAS3-8 Speaker (A).....	4 W
2 - HFCV1-8 Speakers (B, C) @ 4 W each	8 W
TOTAL WATTAGE	16 W

This is a satisfactory amplifier loading.

Figure 6.

SELECT-O-MATIC SPEAKERS

Set the Dual Select-O-Matic Speakers Switch to the position which gives the best balance between the Select-O-Matic Speakers and the remote speakers with normal volume control setting. IF NO REMOTE SPEAKERS ARE USED, THE SWITCH MUST BE SET TO 16 WATTS.

The Wattage of all speakers must be added (including the Select-O-Matic Speakers) and the total watts absorbed by all speakers must not exceed 25 watts, which is the power rating of the MRA4-L6 Amplifier. For best operation, the total watts should be not less than 6 watts (25% of rated amplifier load.)

NOTE: If the wattage of all speakers (including the Select-O-Matic Speakers) to be connected to the Master Remote High Fidelity Amplifier, Type MRA4-L6, exceeds 25 watts, a power amplifier, Seeburg Type HFA1-L6, may be used to supply part of the load. Follow the instructions supplied with the amplifier for connecting speakers.

MASTER REMOTE VOLUME CONTROL, TYPE NO. MRVC-1 (Accessory)

The Master Remote Volume Control, Type MRVC-1 comes completely wired and ready for use. It is only necessary to remove the 7-prong dummy plug from the Master Remote Amplifier and the 2-prong Cancel Plug from the Wired Selection Receiver and replace with the corresponding plugs on the cable of the MRVC-1, and dress the cable to the permanent position selected for the control unit. Screws and cable clamps furnished with this kit make it easy to do a neat, workmanlike installation.

MICROPHONE PREAMPLIFIER AND MIXER, TYPE PAK3-L56 (Accessory)

The Microphone Preamplifier and Mixer Kit, Type PAK3-L56, may be used with the Select-O-Matic Model HF100G on any installation requiring the transmission of voice or live music thru the Seeburg Sound Distribution System.

HIGH FIDELITY CONSTANT VOLTAGE SPEAKER CONTROL, TYPE HF25LT-2 (Accessory)

This is a control designed for use with 70-volt Constant Voltage Speaker lines. It can be used to control the power (in 3db steps) to one or more High Fidelity Constant Voltage type speakers, or it can be used with 16 ohm High Fidelity Speakers that are operating with a Type CVTK-1 Transformer Kit.

TESTING

After the installation has been completed, all units should be carefully tested to see that they perform properly. Make several selections from the Electrical Selector and from each Wall-O-Matic and see that the selections made have correctly registered on the Selector Assembly. Check the quality of music, and note that music can be heard at a comfortable volume level in all parts of the service area. See that all cables are dressed into inconspicuous places to present a neat appearance and prevent mechanical damage to them.

REMOVING CARRIAGE COVER

The carriage cover must be removed for lubricating the mechanism, for servicing and for replacement of the lamp used to illuminate the escutcheon. It is removed as follows:

1. Select an odd number selection (F-1) to get pickup to the left side.
2. Cover the pickup cartridge with the plastic protective case.
3. Remove the top screw on the right hand brush holder and turn the holder until the brush is at the top.
4. Remove two oval head screws; one is on the top, and the other on the lower left side.
5. After replacing the lamp, carefully lower the cover over the carriage making sure the three notches at the bottom edge engage the three support studs on the carriage.
6. Fasten cover and brushes with their respective screws.

LUBRICATION

The mechanism and other mechanical parts should be lubricated periodically. Follow the lubrication chart posted on the back of the mechanism.

PICKUP STYLUSES

In order to tetain good quality of reproduction it is necessary to keep the pickup and styluses clean and in good condition.

CAUTION: The pickup and styluses must be handled carefully or the delicate armature suspension may be damaged.

When records are changed, or the equipment is cleaned the styluses and the stylus brushes should be cleaned by using the small brush furnished for this purpose and mounted in a clip on the left diffuser block.

STYLUS REPLACEMENT

The styluses used with the Seeburg magnetic pickup are tipped with natural Swiss sapphire, which is excelled in hardness and wear resistance only by diamond. However, all materials wear in the presence of friction; wear of a stylus starts with the first play and continues until the stylus is replaced. The tone quality is good and distortion remains at a low figure for the first few thousand plays but gradually distortion increases until a disagreeable amount is noticed.

When only pure vinylite 45 rpm records are used, styluses should be changed every four or five thousand plays to maintain good quality. If, because of the presence of oil on the records, dust or dirt is permitted to accumulate and remain on the surface, the wear will be more rapid; economical operation will require more frequent stylus replacement.

If the Styluses are not replaced before objectionable distortion sets in, the records may be permanently damaged, and replacing the Styluses will not restore the original tone quality.

Because the cost of a pair of styluses is only a small fraction of the cost of a set of records, it is economically sound to replace styluses on a regular schedule rather than on a hit-or-miss basis. A schedule can be most easily determined from instrument income. The styluses should be changed according to the following table if the records are arranged for approximately equal distribution of play between the right and left sides of the pickup:

Approximate Weekly Gross Receipts:	Change Both Styluses Every:
$ 25	4 months
$ 50	2 months
$ 75	6 weeks
$100	4 weeks
$150	3 weeks

The table is based on five cents per selection and four to five thousand plays for each stylus.

TO REPLACE STYLUSES:

1. Remove the slotted-head screw at the top of the arm and remove the pickup by lifting straight up. Thread the screw into the pickup so as not to lose it.

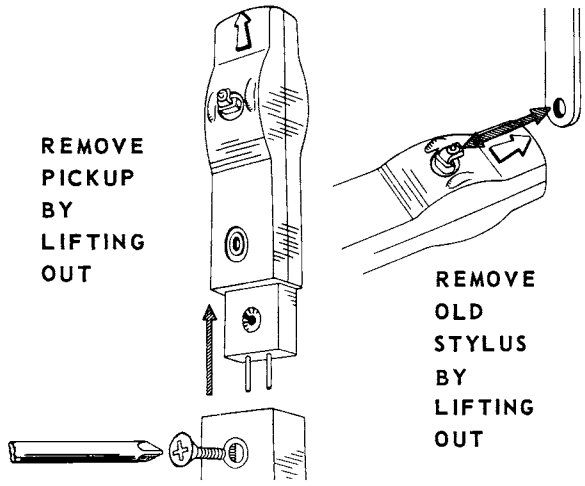


Figure 7.

2. Remove one of the installation tools (with new stylus) from the card and thread the old stylus through the hole in the rounded end of the tool. Lift out the old stylus by gently pulling STRAIGHT OUT. DO NOT USE A TWISTING MOTION OR MOVE THE STYLUS FROM SIDE TO SIDE – PULL STRAIGHT OUT.

3. Gently insert the new stylus – DO NOT FORCE. Slide the tool off the stylus.

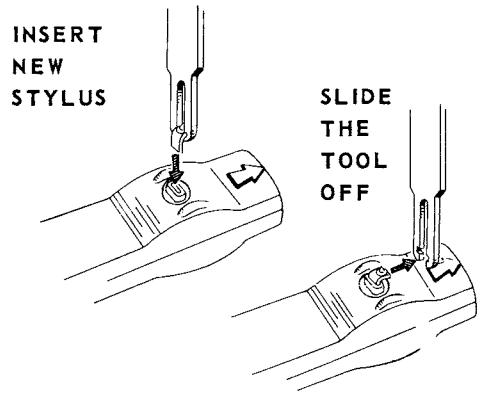


Figure 8.

4. Turn the pickup over and replace the other stylus in the same manner.

Install the pickup on the arm after checking that styluses are installed to point in direction that embossed arrows point. Tighten the holding screw firmly – check landing adjustment. Also, check the stylus brushes to make sure that they wipe the styluses lightly to remove lint and dust.

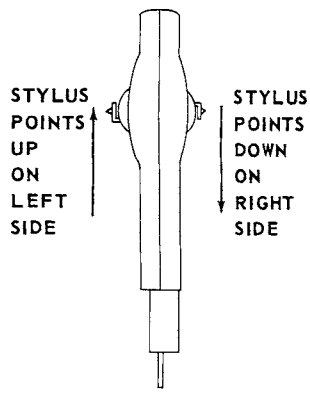


Figure 9.

RECORD CARE

To avoid accumulation of dust and dirt, keep oil off the records. Wipe your hands with a clean cloth before handling records and always handle records by edge and center hole. Records that show signs of surface dust or dirt should be wiped with a slightly dampened cloth, using a circular motion. Use only water to dampen the cloth-solvents will damage the records. Records not in use should be stored on edge in a cool place. Avoid exposing the records to excessive heat. Records become, overheated in a very short time if exposed to direct sunlight or if stored in a closed automobile or truck. Temperature above 120° F. should be avoided.

See instructions on "Placing the Select-O-Matic "100".

LAMP REPLACEMENT

Access to the 25 watt (33 inch) Daylight fluorescent lamp or lamp starter is gained by first removing the program assembly. To remove the fluorescent lamp rotate the lamp 90° in either direction and lift out of sockets.

To replace the lamp behind the carriage cover escutcheon it is necessary to remove the cover as outlined in "Removing Carriage Cover".

To replace the *"Selection Now Playing" lamp* proceed as follows:

1. Select K-4 and while this record is in play position turn off the phonograph at the main switch. Swing the popularity meter cover down exposing the lamp assembly.
2. Loosen the screw which holds the light bracket to the top of the bakelite block. Slide the socket assembly to the right to clear the block. Lift out the lamp assembly.
3. Replace lamps and lightly fasten assembly in place with pigtail lug under screw head.
4. Turn on the main switch. Adjust the socket assembly by sliding the bracket to the left or right until a clean-cut rectangular window of light is centered on K-4. Tighten the screw and raise the cover to normal position.

APPEARANCE

To maintain good appearance of the phonograph, and thus keep customer appeal at its maximum level, the various pieces of glass (such as the lid, side glass, diffuser glass, and mirrors) should be kept clean. The chrome plated parts also should be cleaned occasionally. These parts include Electrical Selector, program holder, coin slot, and plated parts in the mechanism compartment.

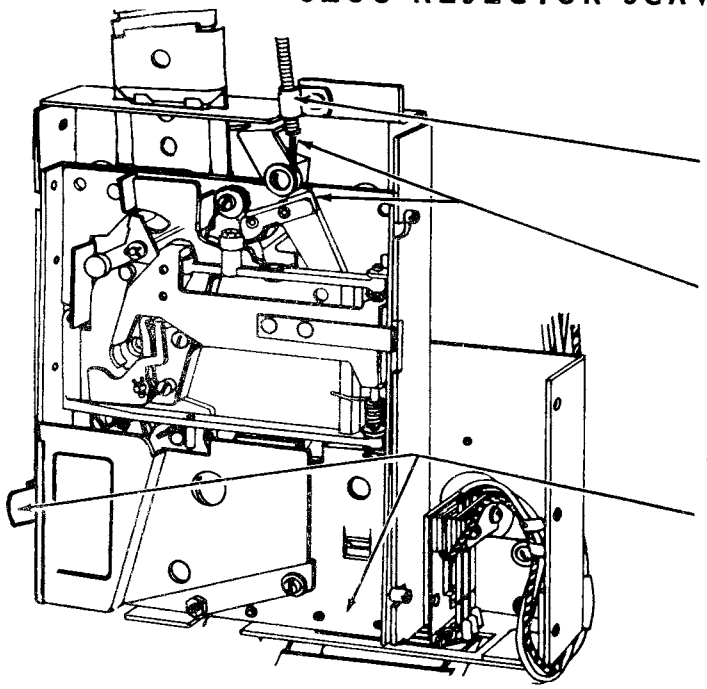
PREPARING INSTRUMENT FOR MOVING

1. Place protective tube over pickup cartridge and install Pickup Arm shipping support.
2. Remove all records from the magazine. Position carriage on base so that the selection indicator light is behind D-1. Put three pads under the carriage wheels; then bolt the carriage to the base by means of two 2-inch long thumb screws.
3. Put the two wood ¼" shims under the base at the mechanism hold-down bolts.
4. Tighten three mechanism hold-down nuts.

TO SHIP

If the instrument is to be shipped by way of a transportation company, it should be blocked and crated in the same manner in which it was received from the factory.

SLUG REJECTOR SCAVENGER CABLE



Adjust position of cable in clamp so plunger button at front of cabinet extends ¾".

The clamp should be positioned so the wire does not bind in the flexible cable.

End of wire should not touch surface of bracket on wiper blade.

Rejector should be held by spring clip and in mounting bracket at this corner.

Figure 10. Cable Adjustment

COIN SWITCHES

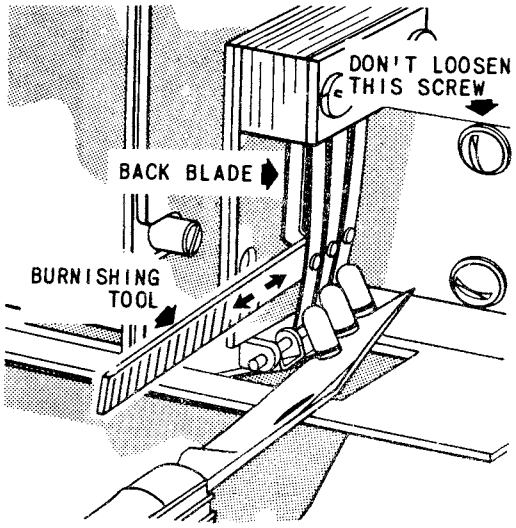


Figure 11. Coin Switch Cleaning

Clean the switch contacts carefully with carbon tetrachloride using a #2 camel hair brush.

Burnish by inserting a burnishing tool between the contacts, raising the switch lever with a knife blade as shown in Figure 11. *Never use a file or sandpaper for contact cleaning.*

DO NOT ATTEMPT ANY BENDING ADJUSTMENT IF THE SWITCH MEETS CONDITIONS OUTLINED ON FIGURES 12, 13 and 14.

1. Insert a dime at top of the slug rejector while supporting the switch actuating lever with a knife blade. The coin rests on the lever as shown in Figure 12.

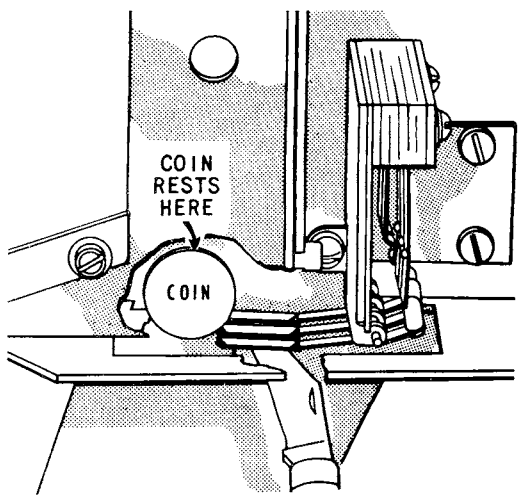


Figure 12. Coin Position

COIN SWITCHES *(Continued)*

2. Move the knife blade *slowly* to the right to release the coin. The contacts must come together and the back blade should move approximately 1/64" just before the coin drops through of its own weight. (See Figure 13).

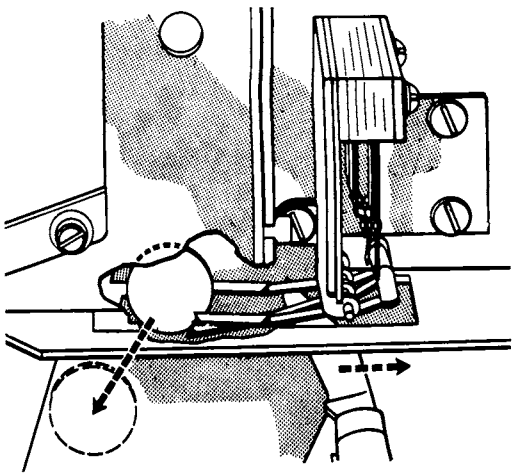


Figure 13. Coin Travel

The coin switch levers should be parallel with the opening in the gage plate and the center lever (10¢) should center on the projection of the gage as shown in Figure 14. Lateral play of the lever should be taken into account when checking the position of the 10¢ switch lever.

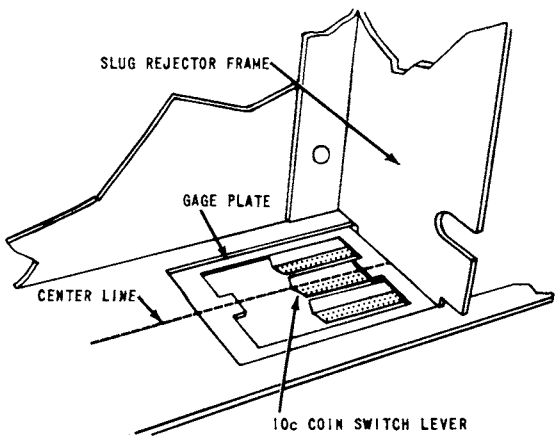


Figure 14. Coin Switch Lever Position

If the proper contact is not made or the coin does not drop through of its own weight adjustment should be made as outlined below.

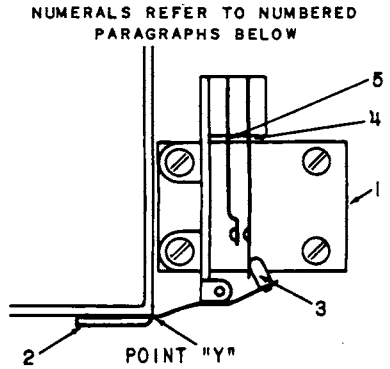


Figure 15. Coin Switch Adjustment

1. Adjust position of coin switch mounting so switch levers bear at point "Y".

2. Adjust levers to be parallel to and against bottom surface of frame.

3. Adjust switch actuating cams to be tilted approximately as shown and overlap the blade approximately 3/32".

4. Bend long blade at this point for 4 to 5 grams tension toward cam as measured at switch contact point.

5. Bend short blade at this point so it moves approximately 1/64" when coin is slowly released as in Figures 12 and 13.

NOTE: It is important that the ENDS of the bracer blades support the short contact blades support the short contact blades as shown in Figure 16.

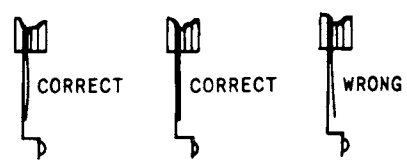


Figure 16. Bracer Blade Adjustment

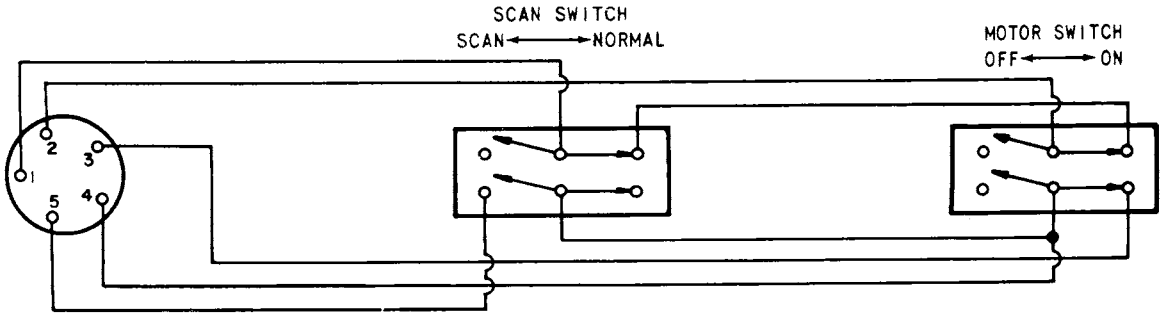


Figure 17. Schematic Diagram - Service Switches.

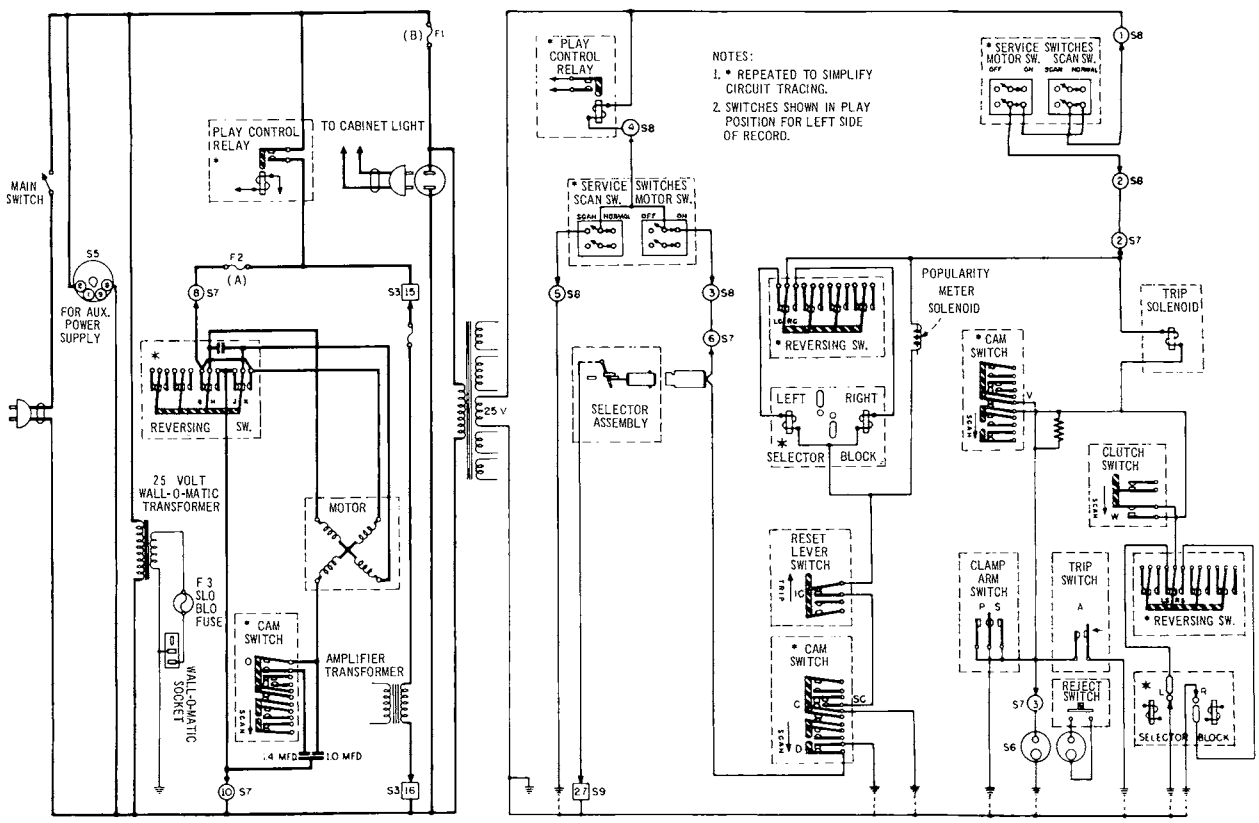


Figure 18. Schematic Diagram - Power & Control Wiring, 145S11-L6 Mechanism & WSR 5-L6 Selection Receiver.

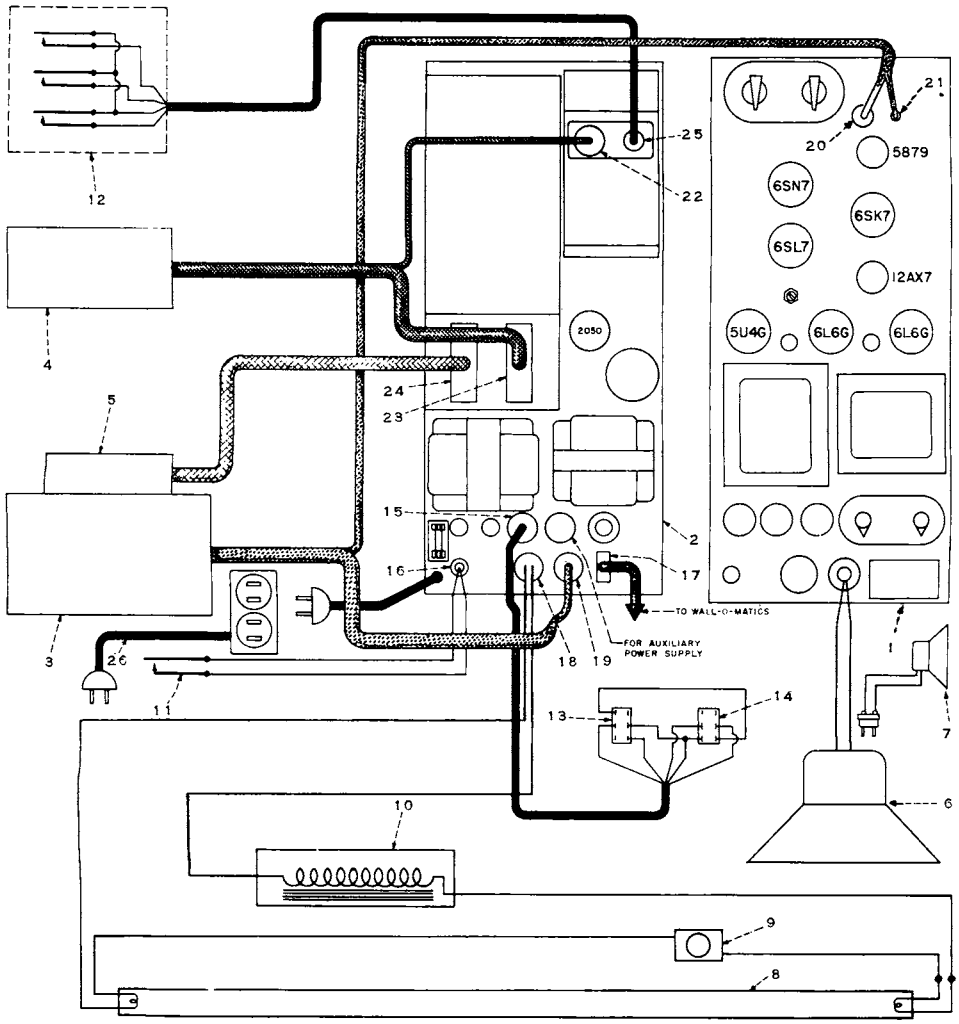


Figure 19. Cabinet Wiring Diagram.

PARTS LIST

Item	Part No.	Part Name
1	305150	High Fidelity Master Remote Amplifier, Type MRA4-L6
2	303230	Wired Selection Receiver, Type WSR-L6
3	246101	Select-O-Matic Mechanism, Type 145S11-L6
4	410200	Electrical Selector, Type ES10-L6
5	304450	Selector Assembly, Type 100SA7-L6
6	406350	Speaker (Low Frequency)
7	406260	Speaker (High Frequency)
8	405136	25 Watt Fluorescent Daylight Lamp
9	405138	Starter
10	405101	Ballast
11	402065	Record Reject Switch
12	401506	Coin Switches
13	404671	Scan Switch
14	23261	Motor Switch
15	200241	5-prong Plug
16	402066	2-prong Plug
17	12015	3-prong Plug
18	10895	A C Plug
19	250942	11-prong Plug
20	A250938	3-prong Plug
21	K228440	Single Prong Plug
22	12028	Octal Plug
23	400844	27-prong Connector
24	F9461	27-prong Plug
25	401515	4-prong Plug (Small)
26	402152	Line Cord and Outlet Assembly

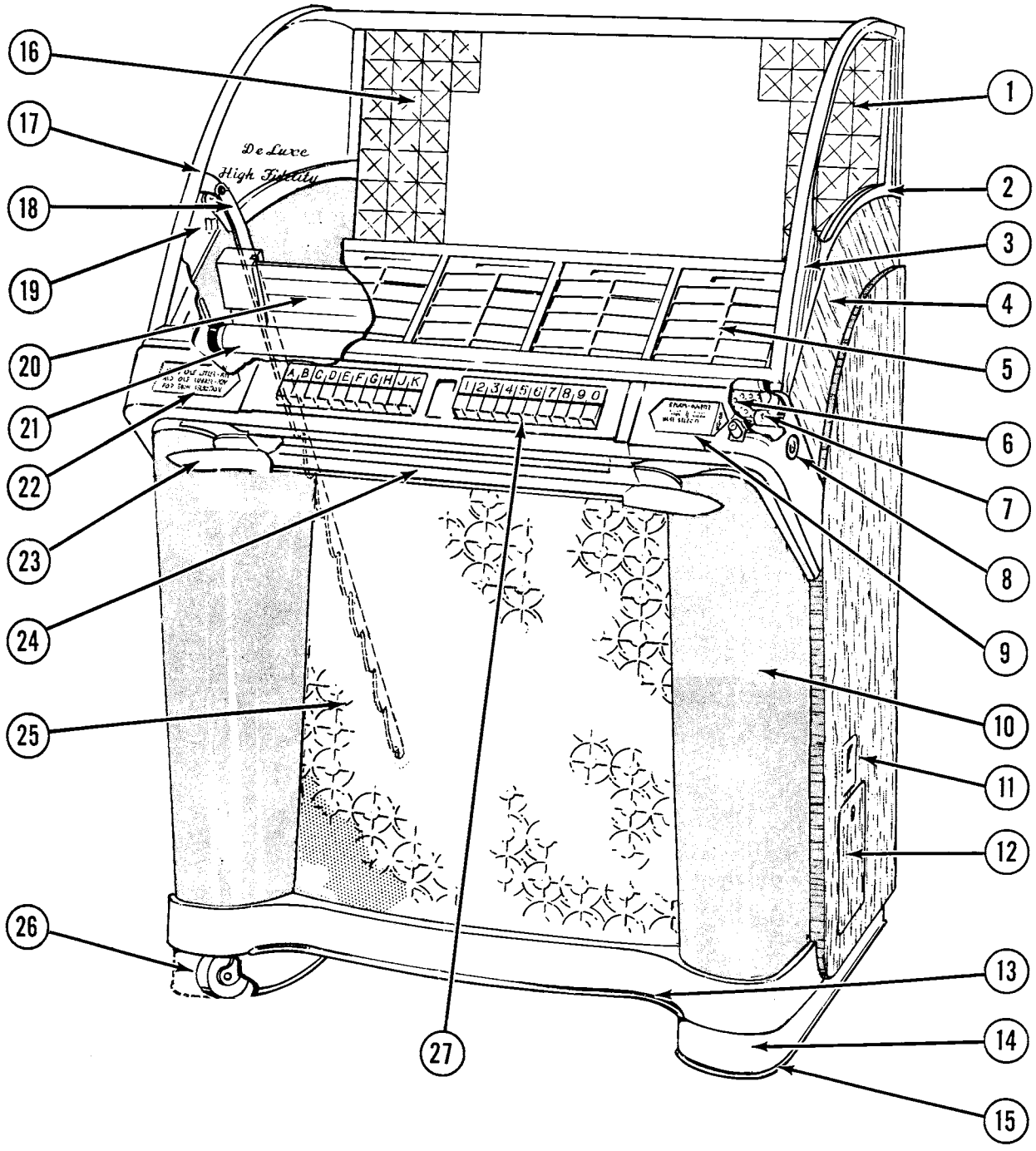


Figure 20. Front View HF100G Cabinet Assembly

PARTS LIST on Reverse Side

PARTS LIST

Item	Part No.	Part Name
1 -	406077	Side Glass
2 -	406063	Side Glass Mldg. L.H. (Outside)
	406062	Side Glass Mldg. R.H. (Outside)
	77274	No. 6 x ¾ Phillips F.H.W. Screws
	406242	Side Glass Retainer (Inside)
	77204	No. x 5/8 Phillips Oval (Hd. W. Screw)
3 -	406030	Side Glass Support (Front Brkt.) R.H.
	406031	Side Glass Support (Front Brkt.) L.H.
	406307	Side Glass Clamp (Back)
	70647	6/32 x ¼ Phillips R.H.M. Screw
4 -	406380	Silver Zebrano Decal (Light) (49" x 34¼")
	406381	Silver Zebrano Decal (Dark) (Die Cut - R.H.)
	406382	Silver Zebrano Decal (Dark) (Die Cut - L.H.)
	406383	Silver Zebrano Decal (Dark) (Band 2 5/8 x 34")
	406384	Silver Zebrano Decal (Dark) (Special)
5 -	406245	Prog. Holder & Frame Assembly
	406140	Frame Rail
	406142	Frame Rail Sides
	406300	Program Glass - (A1-B10)
	406301	Program Glass - (C1-D10)
	406302	Program Glass - (E1-F10)
	406303	Program Glass - (G1-H10)
	406304	Program Glass - (J1-K10)
	406051	Program Holder Assem. (A-B)
	406014	Program Holder Only
	406050	Program Holder Spring
	404675	Retainer Washer
	72158	(7/16 x .140 x .031) Flatwasher
	406052	Program Holder Assem. (C-D)
	406053	Program Holder Assem. (E-F)
	406054	Program Holder Assem. (G-H)
	406055	Program Holder Assem. (J-K)
	406056 thru 406060	Program Identification Labels
	406320 thru 406335	Classification Heading (Sold In Sets Only)
6 -	406229	Vent Screen Front
7 -	405138	Fluorescent Light Starter
	404631	Starter Socket
8 -	406040	Lid Lock - L.H.
	406041	Lid Lock - R.H.
	406042	Lid Lock Bolt
	406043	Bolt Pivot Bar
9 -	406200	Coin Window (6 Play - Quarter)
	406201	Coin Window (3 Play - Quarter)
10 -	406401	Pilaster - R.H.
	406400	Pilaster - L.H.
11 -	406110	Slug Receptacle Assembly
	406085	Slug Receptacle Only
	406109	Slug Receptacle Side Wall
12 -	406338	Cash Door Assembly
	406086	Cash Door Only
	406340	Cash Door Lock
	406095	Lock Reinforcing Channel
13 -	406164	Cabinet Base Trim Strip
14 -	406426	Base Plate Cover - L.H.
	406427	Base Plate Cover - R.H.
15 -	406165	Base Trim Strip - R.H.
	406166	Base Trim Strip - L.H.
16 -	406238	Mirror Assembly - R.H.
	406239	Mirror Assembly - L.H.
	406177	Flex-Glass Mirror Only - R.H.
	406178	Flex-Glass Mirror Only - L.H.
17 -	406412	Cabinet Lid Assembly
	406413	Cabinet Lid Glass
	406077	Lid Hinge
	406017	Cabinet Lid Frame - R.H.
	406018	Cabinet Lid Frame - L.H.
	406083	Cabinet Lid Frame - (Top)
	406084	Cabinet Lid Frame - (Bottom)
18 -	406251	Lid Support
19 -	406090	Side Glass Clamp - R.H.
	406091	Side Glass Clamp - L.H.
	406368	Spring
	406065	Program Frame Latch - R.H.
	406066	Program Frame Latch - L.H.
	406067	Program Frame Latch - Spring
20 -	406414	Diffuser Glass 30" Long
	406425	Diffuser Glass 31¾" Long
21 -	405136	Fluorescent Tube (25 Watt Daylite)
	406645	Light Socket (2)
	406228	Cable Assembly
22 -	406180	Instruction Window (Press One Letter)
23 -	406025	Ornaments - L.H.
	406026	Ornaments - R.H.
24 -	406104	Cabinet Corner Casting - R.H.
	406106	Corner Channel Casting - R.H.
	406105	Cabinet Corner Casting - L.H.
	406107	Corner Channel Casting - L.H.
	70775	10-32 x 3/8 Phillips Flat H.M. Screw Steel Chrome Plated
	70776	10-32 x 3/8 Phillips Oval H.M. Screw Steel Chrome Plated
	406021	Selector Frame Center
25 -	406179	Grille Cloth
	406420	Grille Assembly
26 -	405774	Caster Socket
	402588	Caster (Metal Wheel)
	405773	Caster (Composition Wheel)
27 -	410210	Selector Key Panel, complete

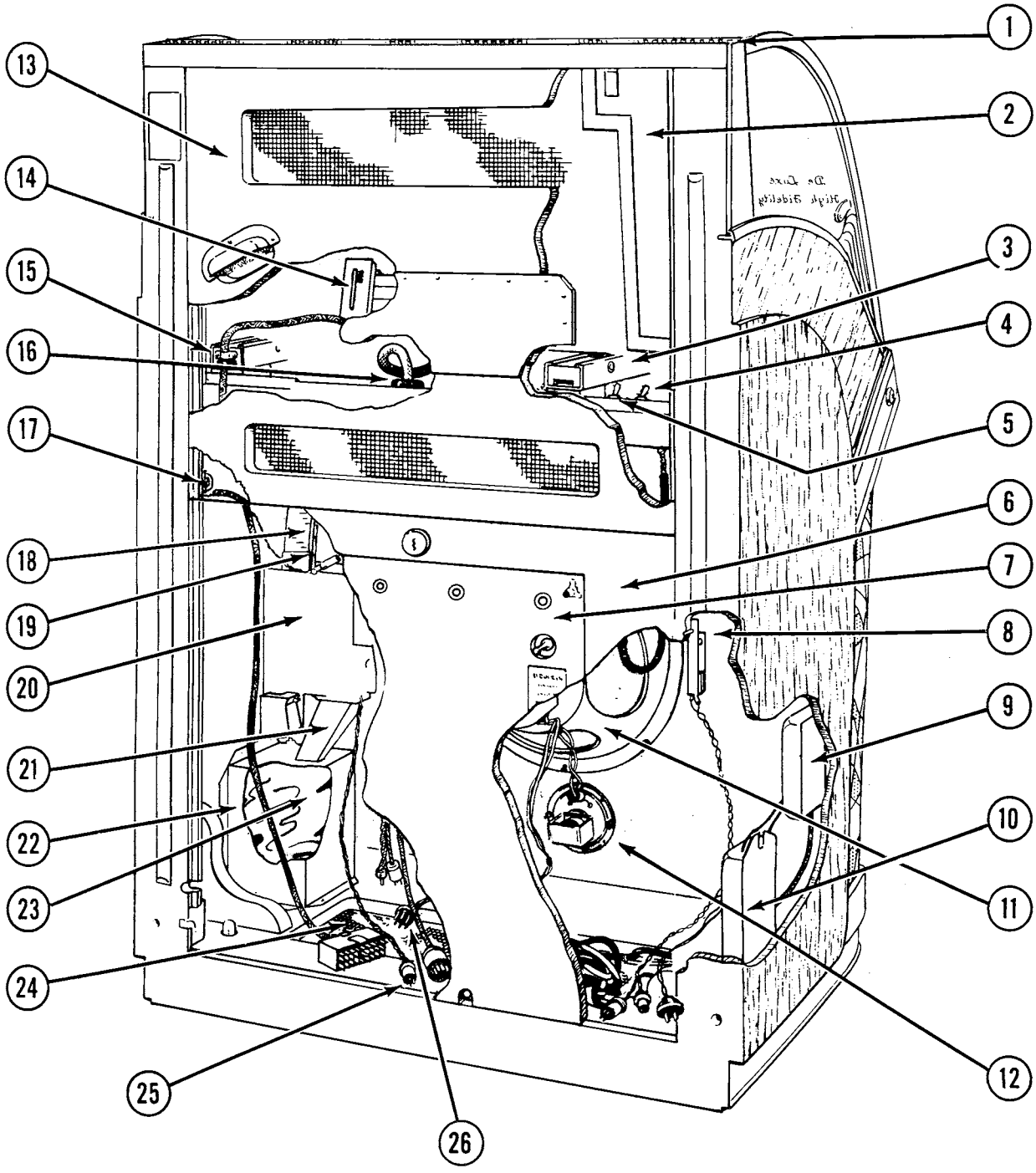


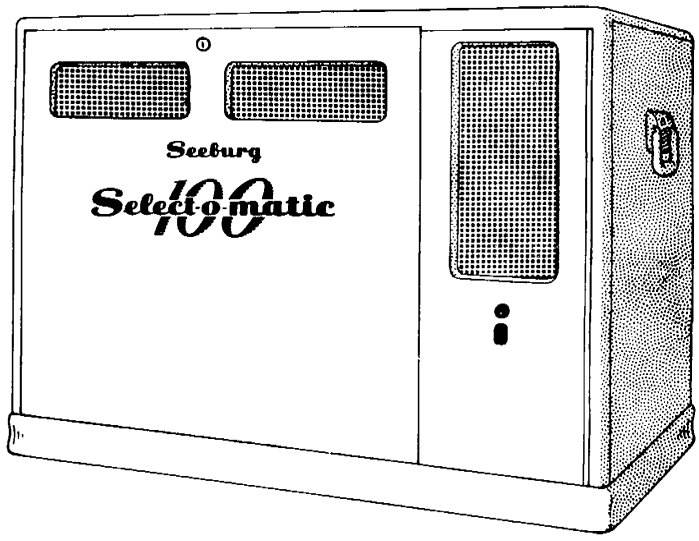
Figure 21. Back View HF100G Cabinet Assembly

PARTS LIST on Reverse Side

PARTS LIST

Item	Part No.	Part Name
1 -	406046	Cabinet Hinge Rail
2 -	406238	Mirror Assembly, R.H.
	406239	Mirror Assembly, L.H.
	70659	6-32 x 3/8 Phillip R.H.M.S. (Finish Hd.) (Red)
	70660	6-32 x 1 1/8 Phillip R.H.M.S. (Finish Hd.) (Red)
3 -	406233	Channel Support Post, R.H.
	406234	Channel Support Post, L.H.
	406235	Channel Block Rear
	406236	Channel & Pin Assembly
	405196	Chassis Lock Pin
	405203	Retaining Ring
	406237	Channel Support Bracket, Upper
4 -	404671	Scan Switch
5 -	23261	Motor Switch
6 -	406119	Back Door Assembly (Lower)
	406123	Rear Door Lock
	404320	Tee Nut
	404321	Eye Bolt
7 -	406445	Lower Rear Door Cover Plate Assem.
8 -	405654	Record Reject Switch Assem. (Complete)
	402065	Switch
	405742	Cable and Plug Assembly
	402064	Pin (Reject)
	77242	No. 5 x ¾ Phillip R.H.W.S. (2)
	15037	Cable Clamp (Switch Stop)
	77243	No. 6 x 3/8 Phillip R.H.W.S. (2)
	402066	2 - Prong Plug
9 -	402152	Line Cord & Outlet Assembly
10 -	405101	Fluorescent Lite Ballast (25 Watt)
11 -	402430	Speaker Plug
	406350	Speaker (Utah) (Low Freq.)
12 -	406260	Speaker (Utah) (Hi Freq.)
	406349	Speaker Receptacle (Hi Freq.)
	406261	Speaker Plug (Hi Freq.)
13 -	406120	Upper Rear Door Assembly
	406122	Upper Rear Door Only
	404619	Rear Door Clamp, R.H.
	404620	Rear Door Clamp, L.H.
	406443	Upper Rear Door Cover Plate
	406441	Upper Rear Vent Screen (Lower)
	406442	Upper Rear Vent Screen (Top)
	406169	Rear Door Trim (Small)
	406170	Rear Door Trim (Large)
	406444	Handle
14 -	405219	Pickup Brush
	405220	Brush Holder
15 -	15037	Cable Clamp
16 -	405204	Rubber Grommet
17 -	404619	Upper Rear Door Clamp, R.H.
	404620	Upper Rear Door Clamp, L.H.
18 -	401625	Coin Chute
19 -	401740	Scavenger Wire & Plunger Assembly
	401741	Scavenger Wire & Housing
	401223	Plunger Return Spring
20 -	401731	Slug Rejector Mounting Frame Assembly
	404731	Slug Rejector
	401255	Slug Rejector Mounting Stud
	401506	Coin Switch & Cable Assembly
	401314	Coin Switch Only
21 -	401298	Lower Coin Chute Welded Assem.
22 -	406096	Cash Box Welded Assembly
	405745	Cash Box Lock Plate
23 -	404659	Cash Bag
24 -	406440	Floor Vent Screen
25 -	401515	4 - Prong Plug (Coin Switch)
26 -	402430	6 - Prong Speaker Plug

SEEBURG SELECT-O-MATIC "100"
MODEL H100W



The Select-O-Matic "100" R.C. Special, Model H100W is for use in "hide-away" installations where the available space does not permit the use of the Model 100W. It uses the Seeburg Select-O-Matic "100" Mechanism for selective playing of either or both sides of fifty 45 r.p.m., 7-inch records with 1½ inch center hole. Choice of any of the one hundred selections is made by remote control with the 100-selection, 3-wire Wall-O-Matics. Sound is distributed to the areas to be served by means of remote speakers connected to the Master-Remote Amplifier in the R.C. Special.

The cabinet is of wood, finished in grey wrinkle lacquer and is divided into two compartments. One compartment contains the Select-O-Matic "100" Mechanism, the other is used for the electronic equipment. Doors on the front and back provide access to the mechanism for record changing and service. Switches, which operate when the front door is opened, turn on service lights for illumination of the mechanism and connect a monitor speaker for checking records and amplifier operation. Two service switches are located in the mechanism compartment. One of these operates the mechanism motor when no selections have been made, the other may be used to stop the motor without cancelling existing selections. Unplayed selections and those made while the motor is turned off will be played when the switch is returned to normal position.

A Seeburg Magnetic Pickup assures long record life and high quality reproduction uneffected by temperature or humidity conditions. A 25-watt amplifier connects to the monitor speaker and to remote speakers. The amplifier incorporates an automatic volume compensator to provide uniform volume level and avoid "blasting" due to "loud" records. The volume of the sound from the remote speakers is controlled by means of a volume control which can be installed at any conveniently accessible place. The volume control is mounted in a small metal case which includes a push button for cancelling a playing selection.

A Selection Receiver incorporates the switches and relays for remote selection operation as well as the control circuits of the mechanism and provides power for up to six Wall-O-Matics. An Auxiliary Power Supply unit (furnished as standard equipment) provides power for operation of up to six additional Wall-O-Matics. The Selection Receiver and the furnished Power Supply Unit will, then, furnish power for up to twelve Wall-O-Matics. More than twelve Wall-O-Matics may be used by the addition of more auxiliary power supplies – one for each additional six Wall-O-Matics. The Selection Receiver is equipped with sockets for convenient plug-in connections for the mechanism, cabinet lights, amplifier, and control circuits. A Selection Counter is a part of the Receiver and totals the number of selections made from the Wall-O-Matics. It may be used to check the total of coins in the Wall-O-Matics and for an approximate check of the number of plays of the mechanism.

A Popularity Meter is included in the mechanism for determining the number of times the different records have been played.

The Selection Receiver and the Amplifier are mounted on a door at one end of the cabinet and are in a vertical position. The door may be opened for access to the tubes, fuses, and connections or it may be fully removed. The units are hinged at the lower edge and, by removing two readily accessible wing nuts, they may be lifted away from the door panel for inspection or service of the interior wiring or tube and plug socket connections during normal operation.

Major assemblies furnished as standard equipment in the Model H 100W are:

1 - Type 145S12-L6 Select-O-Matic Mechanism with Type 100SA6-L6 Selector Assembly.

1 - Type MRA3-L6 Master-Remote Amplifier.

1 - Type WSR6-L6 Wired Selection Receiver.

1 - Type PS6-1Z Wall-O-Matic Power Supply.

1 - Type MRVC-1 Master Remote Volume Control Kit.

SPECIFICATIONS

Power Requirements:

117 volts, A.C., 60 cycle
Standby (without Wall-O-Matics)..... 40 watts
Operating (without Wall-O-Matics).....200 watts
For each 3W1 Wall-O-Matic, add to standby power requirements..... 15 watts

Cabinet Key Number.....F221

Record Capacity.....50 records (100 selections)

Record Type.....45 rpm, 7-inch diameter, 1.5-inch center hole.

Pickup.....Seeburg Magnetic

Monitor Speaker.....5" p.m.

Amplifier:

8-tube, Constant Voltage Type (70.7 volt) with Automatic Volume Compensator.

Audio Power Output (at full volume).....
..... 25 watts, max.

Remote Speakers:

Seeburg Type CV (Constant Voltage) or RS

Remote Control:

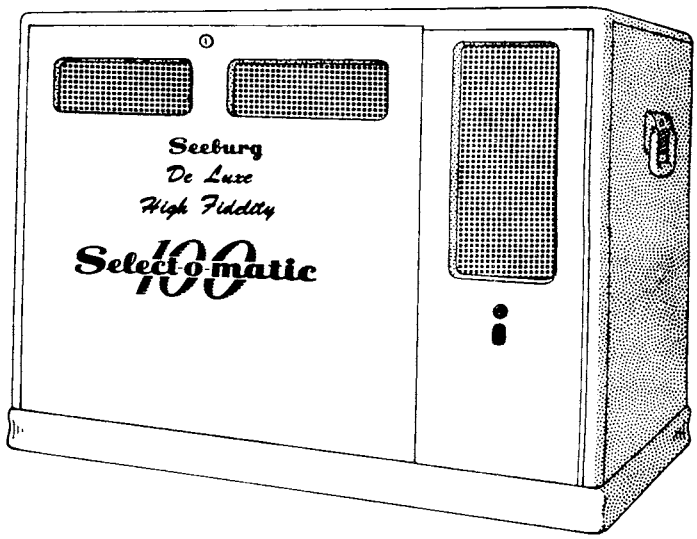
Type.....Seeburg, 3-wire "Wall-O-Matic "100"
Nominal operating voltage..... 25
Power source for Wall-O-Matics.....Selection Receiver and Power Supply.....(Type PS6-1Z).
Maximum number of Wall-O-Matics operated from Selection Receiver..... 6
Maximum number of Wall-O-Matics operated from Power Supply..... 6

Tubes:	Fuses:
1 - 6J7	1 - 5 amp. 3AG
1 - 6SN7GT 1 - 6SK7	1 - 3 amp. 3AG
2 - 6SL7GT 2 - 6L6G	2 - 2 amp. 3AG Slo-Blo
1 - 2050 1 - 5U4G	2 - 3 amp. Fustat

Dimensions:

Height ..... 27½ Inches
Width ..... 36 Inches
Depth (front to back) ..... 23 Inches
Net Weight..... 208 Pounds
Shipping Weight..... 254 Pounds

SEEBURG SELECT-O-MATIC "100"
MODEL HHF100G



The Select-O-Matic "100" R.C.Special,Model HHF100G is for use in "hide-away" installations where the available space does not permit the use of the Model HF100G. It uses the Seeburg Select-O-Matic "100" Mechanism for selective playing of either or both sides of fifty 45 r.p.m., 7-inch records with 1½ inch center hole. Choice of any of the one hundred selections is made by remote control with the 100-selection, 3-wire Wall-O-Matics. Sound is distributed to the areas to be served by means of High Fidelity remote speakers connected to the High Fidelity Master-Remote Amplifier in the R. C. Special.

The cabinet is of wood, finished in blue wrinkle lacquer and is divided into two compartments. One compartment contains the Select-O-Matic"100" Mechanism, the other is used for the electronic equipment. Doors on the front and back provide access to the mechanism for record changing and service. Switches, which operate when the front door is opened, turn on service lights for illumination of the mechanism and connect a monitor speaker for checking records and amplifier operation. Two service switches are located in the mechanism compartment. One of these operates the mechanism motor when no selections have been made, the other may be used to stop the motor without cancelling existing selections. Unplayed selections and those made while the motor is turned off will be played when the switch is returned to normal position.

A Seeburg Magnetic Pickup assures long record life and high quality reproduction uneffected by temperature or humidity conditions. A High Fidelity 25-watt amplifier connects to the monitor speaker and to remote speakers. The amplifier incorporates an automatic volume compensator to provide uniform volume level and avoid "blasting" due to "loud" records. The volume of the sound from the High Fidelity remote speakers is controlled by means of a volume control which can be installed at any conveniently accessible place. The volume control is mounted in a small metal case which includes a push button for cancelling a playing selection.

A Selection Receiver incorporates the switches and relays for remote selection operation as well as the control circuits of the mechanism and provides power for up to six Wall-O-Matics. An Auxiliary Power Supply unit (furnished as standard equipment) provides power for operation of up to six additional Wall-O-Matics. The Selection Receiver and the furnished Power Supply Unit will, then, furnish power for up to twelve Wall-O-Matics. More than twelve Wall-O-Matics may be used by the addition of more auxiliary power supplies – one for each additional six Wall-O-Matics. The Selection Receiver is equipped with sockets for convenient plug-in connections for the mechanism, cabinet lights, amplifier, and control circuits. A Selection Counter is a part of the Receiver and totals the number of selections made from the Wall-O-Matics. It may be used to check the total of coins in the Wall-O-Matics and for an approximate check of the number of plays of the mechanism.

A Popularity Meter is included in the mechanism for determining the number of times the different records have been played.

The Selection Receiver and the Amplifier are mounted on a door at one end of the cabinet and are in a vertical position. The door may be opened for access to the tubes, fuses, and connections or it may be fully removed. The units are hinged at the lower edge and, by removing two readily accessible wing nuts, they may be lifted away from the door panel for inspection or service of the interior wiring or tube and plug socket connections during normal operation.

Major assemblies furnished as standard equipment in the Model HHF100G are:

1 - Type 145S12-L6 Select-O-Matic Mechanism with Type 100SA6-L6 Selector Assembly.

1 - Type MRA4-L6 Master Remote High Fidelity Amplifier.

1 - Type WSR6-L6 Wired Selection Receiver.

1 - Type PS6-1Z Wall-O-Matic Power Supply.

1 - Type MRVC-1 Master Remote Volume Control Kit.

SPECIFICATIONS

Power Requirements:

117 volts, A.C., 60 cycle
Standby (without Wall-O-Matics)..... 40 watts
Operating (without Wall-O-Matics).....200 watts
For each 3W1 Wall-O-Matic, add to standby power requirements..... 15 watts

Cabinet Key Number.....F221

Record Capacity.....50 records (100 selections)

Record Type.....45 rpm, 7-inch diameter, 1.5-inch center hole.

Pickup.....Seeburg Magnetic

Monitor Speaker.....5" p.m.

Amplifier:

8-tube, High Fidelity Constant Voltage Type with Automatic Volume Compensator.

Audio Power Output (at full volume).....
..... 25 watts, max.

Remote Speakers:

Seeburg High Fidelity Type

Remote Control:

Type.....Seeburg, 3-wire "Wall-O-Matic "100"
Nominal operating voltage..... 25
Power source for Wall-O-Matics.....Selection Receiver and Power Supply.....(Type PS6-1Z).
Maximum number of Wall-O-Matics operated from Selection Receiver..... 6
Maximum number of Wall-O-Matics operated from Power Supply..... 6

Tubes:

1 - 5879
1 - 6SN7
1 - 6SK7
1 - 6SL7
1 - 12AX7
1 - 6L6GT
1 - 5U4G
1 - 2050

Fuses:

1 - 5 amp. 3AG
1 - 3 amp. 3AG
2 - 2 amp. 3AG Slo-Blo
2 - 3 amp. Fustat

Dimensions:

Height ..... 27½ Inches
Width ..... 36 Inches
Depth (front to back) ..... 23 Inches
Net Weight..... 208 Pounds
Shipping Weight..... 254 Pounds

SELECT-O-MATIC "100"

R. C. SPECIAL, MODEL HHF100G

INSTALLATION and OPERATION

The Select-O-Matic "100" Hide-away Model HHF100G is similar, in most respects, to the Model HM100C. The two models differ only in the color of the cabinet, the amplifier and in the speaker connections.

All service and parts data for the HM100C on pages 1153 to 1162 applies to the HHF100G except Item 1, page 1161 and the speaker data, pages 1155 to 1157. The Model HHF100G is equipped with Part Number 305150 Amplifier, Type MRA4-L6.

SPEAKERS

In order to preserve the high quality obtainable from the MRA4-L6 High Fidelity Amplifier the following type of High Fidelity Remote Speakers must be used.

A. Type HFAS2-12 Recessed Speaker (Grill Type for wall or ceiling mounting - 16 ohm, 8 watts)

B. Type HFAS3-8 Corner Speaker (Wood Cabinet - Ceiling corner or floor mounting - 16 ohm, 8 watts)

C. Type HFCV1-8 Corner Speaker (Wood Cabinet - Ceiling corner or floor mounting - 70 Volt Constant Voltage Type)

CONNECTION OF HIGH FIDELITY REMOTE SPEAKERS

1. If 16 ohm, 8 watt type High Fidelity Speakers are to be used, only a maximum of 3 may be connected to the MRA4-L6 Amplifier supplied with the R. C. Special. They are connected in parallel to terminals L and G on the amplifier. See Figure 2. With this connection 8 watts will be available at each speaker. Wire size and line lengths are given below:

WIRE SIZE A.W.G.	SEEBURG PART NO.	MAXIMUM LINE LENGTH (FOR 10% POWER LOSS)		
		1 Speaker 8 Watts	2 Speakers 16 Watts	3 Speakers 24 Watts
24	502090	32 feet	16 feet	11 feet
22	–	50 feet	25 feet	17 feet
20	*502294	80 feet	40 feet	27 feet
18	51941	140 feet	65 feet	47 feet
16	*502229	200 feet	100 feet	67 feet
14	–	320 feet	160 feet	110 feet
12	–	500 feet	250 feet	170 feet

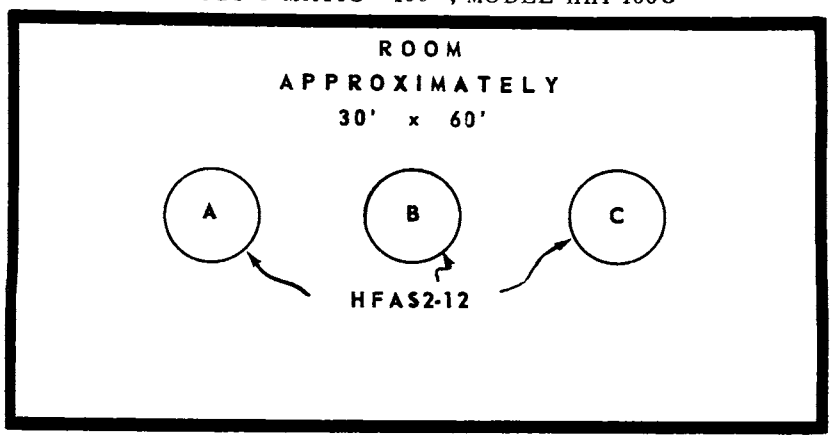
* SHIELDED

2. If the proposed speaker line is too long for a practical wire size, or if more than 3 speakers are needed, convert the speakers to CV operation by installing one or more transformer kits; Type CVTK-1. See Figure 3. Connect the CVTK-1 line to terminals A and B on the Amplifier. See CVTK-1 instruction folder packed with each kit.

3. Constant Voltage Type High Fidelity Speakers are connected to terminals A and B of the Amplifier. See Figure 3. A load of 16 watts can be carried by No. 24 wire (Part No. 502090) for line lengths up to 600 feet.
   For wiring of Speakers, See instruction folder packed with each speaker and kit.

The Monitor Speaker located in the cabinet of the HHF100G, R. C. Special, is connected to the A and B terminals of the amplifier. This monitor speaker is disconnected by a switch which opens when the cabinet door is in place. The wattage consumed by the monitor speaker is quite small and is not adjustable. This small speaker load may be ignored when totaling all speaker wattage.

The wattage of all the High Fidelity speakers must be added (excluding the monitor speaker) and the total wattage absorbed by all speakers must not exceed 25 watts, which is the power rating of the MRA4-L6 High Fidelity Master Remote Amplifier. For best operation, the total speaker load should not be less than 6 watts. (25% of rated amplifier load). If the wattage of all the speakers connected to the High Fidelity Master Remote Amplifier exceeds 25 watts, one or more auxiliary amplifiers, Seeburg Type HFA1-L6 may be used to supply part of the speaker power. If the Type HFA1-L6 amplifier is used, the speakers are connected as explained in the instructions packed with the amplifier.



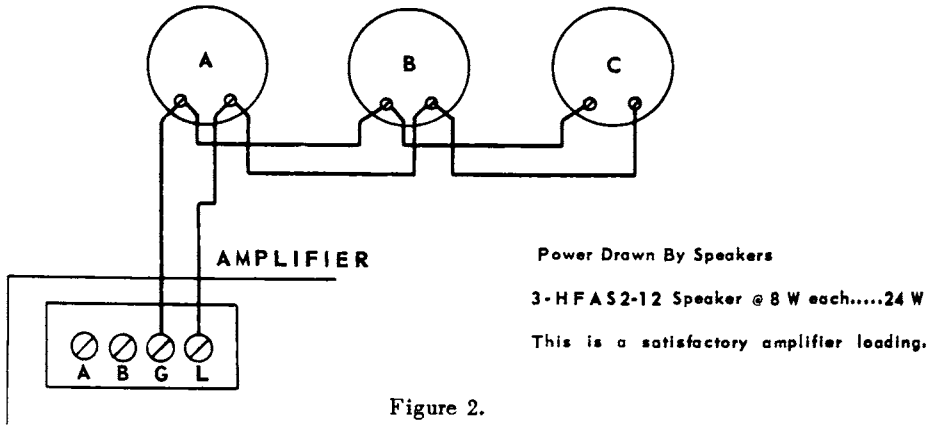


Figure 2.

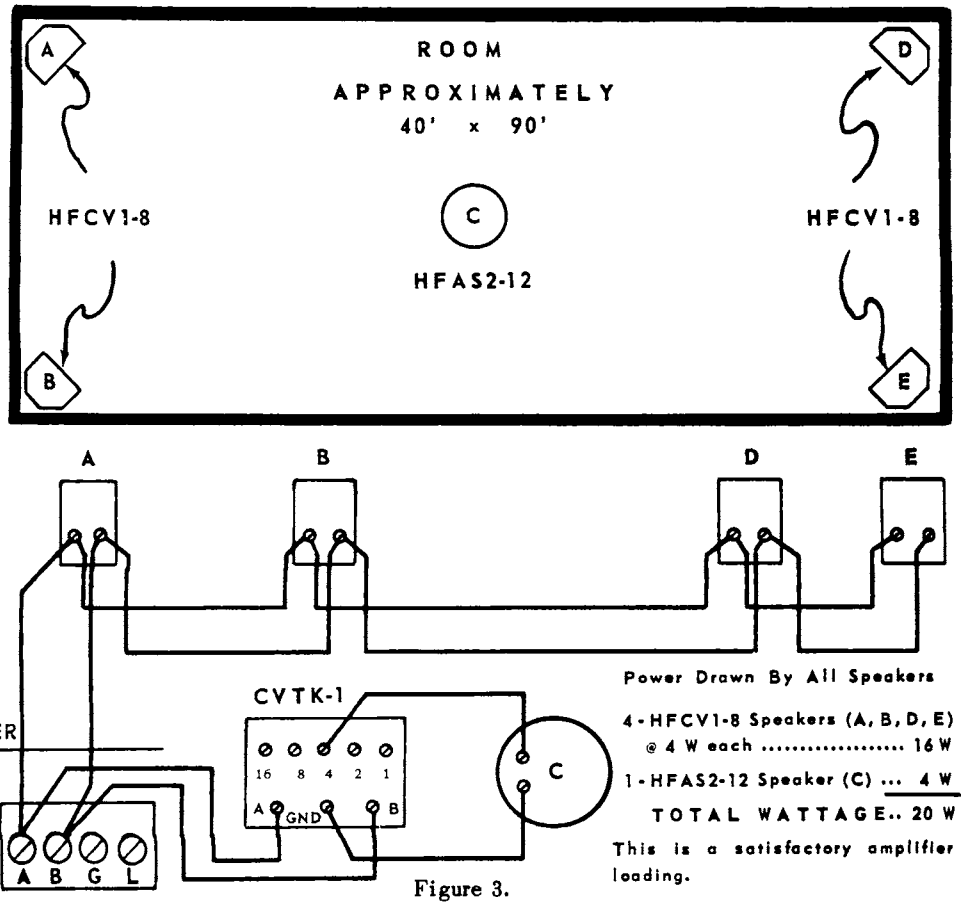
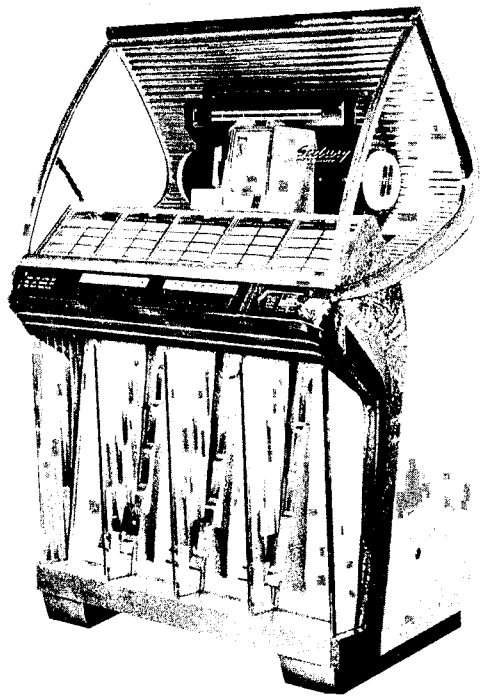


Figure 3.

Seeburg
HIGH FIDELITY

Select-o-matic 100

MODEL HF100R



The Select-O-Matic "100", Model HF100R, is a coin-operated phonograph using the Seeburg Select-O-Matic Mechanism for selective playing of either or both sides of fifty 45 r.p.m., 7-inch records. Choice of any of the one hundred selections may be made at the instrument with an Electrical Selector or by remote control with 100-selection, 3-wire Wall-O-Matics. A program holder using standard size title strips displays the entire hundred selection program and may be removed as a complete unit or in sections of 20 titles.

The program title strips are back-lighted by a 25-watt fluorescent lamp which also illuminates the mechanism, the speaker grille, the electrical selector escutcheons, grille baffles, and ornaments.

The lid glass through which the mechanism may be seen is hinged and opens for changing records and title strips. The cover is retained at any position of opening by a self-locking support rod. A Service Switch, a Credit Switch, a Popularity Meter and a Selection Counter are accessible with the lid open. The Service Switch and Credit Switch are used to operate the mechanism when servicing the instrument. The Popularity Meter, which is a part of the mechanism, indicates the number of times (up to 50) each record is played. The Selection Counter, which is part of the Electrical Selector, totals the number of selections made with the Electrical Selector and with remote control Wall-O-Matics. A rubber flap covers the counter dials.

Coins are deposited in a single entry coin chute and pass through a 5-, 10-, 25-cent slug rejector to the coin switches. The coin switches are connected for one play for a nickel, two plays for a dime or six plays for a quarter. The coins are stored in a canvas bag which has a capacity of approximately one-hundred fifty dollars. The bag is removed through a small door at the lower right side of the cabinet.

A Seeburg Magnetic Pickup with one-fifth ounce stylus pressure assures long record life and high quality reproduction unaffected by temperature or humidity conditions. A 25-watt High Fidelity Amplifier connects to five permanent magnet type speakers: two 12-inch low frequency speakers and a 5-inch high frequency speaker on the front baffle, and one 8-inch low and middle range speaker on each side

panel. This speaker arrangement provides omnidirectional sound distribution. A terminal strip is provided for connection of High Fidelity Type Remote Speakers. The amplifier incorporates an automatic volume compensator to provide uniform volume level and avoid "blasting" due to "loud" records. A single volume control is used to adjust the volume of sound from the phonograph speaker and the remote speakers. Provision has been made for plug-in connection of a remote volume control that may be up to a hundred feet from the Select-O-Matic without introducing hum or causing distortion.

A Selection Receiver supplies power for remote control Wall-O-Matics and incorporates the switches and relays for operation from remote points as well as from the Electrical Selector. It is equipped with convenient sockets for plug-in connections of the mechanism, cabinet lighting, amplifier, and control circuits.

The Selection Receiver and the Amplifier are mounted in a vertical position on the inside of the cabinet rear door. The door may be opened for access to the tubes and fuses or it may be fully removed. The units are fastened over an opening which is covered by a plate. The plate, which is held in place with wing nuts, may be removed to expose the tube socket and plug connections and the interior wiring of the units for test during normal operation.

A selection cancel switch, effective only when a record is playing, is operated by a small, inconspicuous button on the back near the left side of the cabinet. A remote cancel switch or button may be substituted by plug-in connection to the selection receiver.

SPECIFICATIONS

Power Requirements:

117 volts A.C., 60 cycles
Standby (without Wall-O-Matics) - 85 watts
Operating (without Wall-O-Matics) - 230 watts

Cabinet Lighting:

1 - 25-watt, 33-inch, Daylight Fluorescent (FS25 starter.)

Cabinet Key Number F279

Select-O-Matic Mechanism: .....Type 145S14-L6

Selector Assembly .....Type 100SA8-L6

Record Capacity .....50 records (100 Selections)

Record Type .....45 rpm

7-inch diameter, 1.5-inch center hole

Pickup .....Seeburg High Fidelity Magnetic

Phonograph Speakers:

2-12" permanent magnet (low frequency)
2- 8" permanent magnet (wide range)
1- 5" permanent magnet (high frequency)

Finish .....Sea Mist & Olive Burl Plastic Veneer

Coin Equipment .....5-, 10-, 25-cent Single Entry Slug Rejector

Amplifier .....Type MRA5-L6

8-tube, High Fidelity, Constant Voltage Type with Automatic Volume Compensation

Audio Power Output:

To Phonograph Speakers (adjustable).....
.....1 to 25 watts

To Remote Speakers.....24 watts max.

Maximum total to Phonograph Speakers & Remote Speakers.....25 watts

Electrical Selector .....Type ES11-L6

Wired Selection Receiver .....Type WSR7-L6

Remote Control:

Seeburg, 3-wire "Wall-O-Matic
Nominal operating voltage.....25

Power Source.....Selection Receiver or Auxiliary Power Supply Type PS6-1Z

Maximum number of Wall-O-Matics powered by Selection Receiver.....6

Maximum number of Wall-O-Matics powered by each added auxiliary power supply.....6

Remote Speakers: .....High Fidelity Types

HFAS2-12	12" Recessed Type
HFCV1-12	12" Recessed Type
HFCV2-8	8" Wall Cabinet
HFCV3-8	8" Corner Cabinet

Tubes:	Fuses:
1 - 5879	1 - 5 Amp. 3 AG
1 - 6SN7GTA/6SN7GT	1 - 3 Amp. 3 AG
1 - 6SK7/6SK7GT	1 - 2 Amp. 3 AG Slo-Blo
1 - 6SL7	1 - 1 Amp. 3 AG Slo-Blo
1 - 12AX7	1 - 3 Amp. Fustat
2 - 6L6G /6L6	
1 - 5U4G	
1 - 2050	

Dimensions:

Height	59 Inches
Width	35½ Inches
Depth	27 Inches
Net Weight	315 Pounds
Shipping Weight	395 Pounds
Record Weight, 50 Records, approx.	3 Pounds

INSTALLATION AND OPERATION

DAMAGE CAUSED BY SHIPPING

Examine the instrument immediately after unpacking. If any damage is found, notify the transportation representative and get his signature on the transportation bill with notation of damage.

CABINET LID SUPPORT

The cabinet lid may be lifted to any required opening for access to the mechanism and the service switch. A notched support rod is attached to the lid and lifts with it. One of the notches in the rod hooks into and locks in a latch plate when the weight of the raised lid bears on it. A spring assures positive engagement of the rod by the latch plate and prevents accidental release by bumping or jarring. To lower the lid, it must first be lifted while pressing the support rod toward the back of the cabinet. DO NOT ATTEMPT TO MOVE CABINET WITH LID UP.

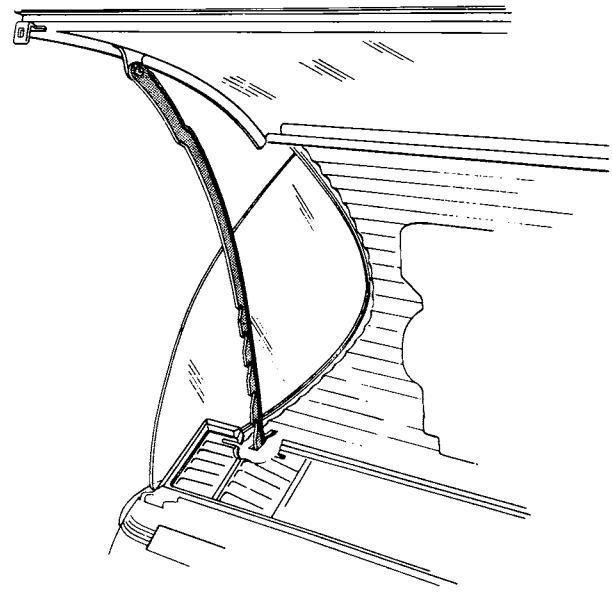


Figure 2. Cabinet Lid Support

UNBLOCKING

Before placing this phonograph into operation it is necessary to remove or loosen certain shipping hardware used to safeguard the mechanism during transit. Carefully follow instructions on the tags found in several places in the instrument and remove blocks and shipping supports accordingly. *CAUTION: Do not attempt mechanism operation by manually turning the flywheel-this may damage the mechanism. Use the service switches!*

DO NOT PUT PACKING BLOCKS, INSTRUCTION CARDS, OR ANY OTHER MATERIAL ON THE AIR INTAKE SCREEN IN THE FLOOR OF THE CABINET, AS THIS WILL OBSTRUCT VENTILATION AND CAUSE OVERHEATING. SUCH OVERHEATING MAY WARP RECORDS AND SHORTEN THE LIFE OF THE EQUIPMENT.

ELECTRONIC EQUIPMENT

The electronic equipment is mounted on the rear door. The door is hinged and can be swung out to permit access to coin equipment and to tubes, tone controls, plugs, etc., on the front of the electronic equipment. The cover plate on the rear of the electronic equipment can be removed by unscrewing three thumb nuts and loosening the screw at the lower center of the plate. *(NOTE: It is not necessary to remove this screw.)* The electronic equipment may be completely serviced while the phonograph is operating without removing it from the cabinet. Normally the opening of the lower rear door is limited by a chain. The chain can be unhooked and, the door can be swung open until it rests on the floor. The entire door can also be removed by removing all plugs and unhooking the chain, then lifting the assembly up and out toward the rear.

TUBES AND PLUGS

This instrument is shipped with tubes and plugs installed. In shipment they may loosen; for this reason, it is well to see that they are all firmly seated in the sockets before inserting the line cord.

VOLTAGE RATING

Before connecting the line cord to a light socket or outlet make certain that the voltage and frequency on the meter box at the location agree with the markings of voltage and frequency on the instrument name plate.

PLACING THE SELECT-O-MATIC "100"

To obtain best performance and long service from this equipment, *it should* be placed on a firm, reasonably level surface away from excessive moisture and heat. Side panels should be kept clear, if possible, to obtain maximum benefit from omnidirectional speaker array.

WARNING: To prevent warping records place phonograph where the records will not at any time be exposed to direct sunlight or any other radiant heat. Do not reduce ventilation by obstructing the vent screens.

A space of at least two inches must be allowed between the back of the cabinet and the wall, so as to assure adequate ventilation.

SERVICE SWITCH OPERATION

A three-position service switch is located in the mechanism compartment, on the right hand side, behind the program holder and the diffuser glass. When the switch lever is set in the vertical (center) position, the power is off, and the mechanism will not operate even though selections are "set up" on the Selector Assembly.

When the switch lever is moved to the left, against the spring return, it causes the mechanism to scan the carriage; in this position it will scan past and bypass selections set up on the Selector Assembly.

The Service Switch must be set toward the RIGHT for NORMAL OPERATION.

SERVICE CREDIT SWITCH

At the right hand end of the Electrical Selector Assembly, under rear edge of mounting flange, is a push-button switch. While the button is held depressed it permits selections to be made. The switch is accessible only by lifting cabinet lid and tilting Program Holder Frame forward.

LOADING RECORDS

To obtain optimum performance and supply your customer with the best in recorded music it is necessary that only new or nearly new records be used on the HIGH FIDELITY Model HF100R, Select-O-Matic. Only standard 7-inch commercial 45 rpm record may be used. Occasionally, records will be found that have an undersize center hole. This is caused, in some cases, by the paper label being pushed into the center hole. If the record center hole is undersize, such a defective record may stick on the record center pin.

Push up the main switch (accessible through hole in rear door) to the "on" position. Set the service switch to the center position; this keeps the carriage from operating even though credits are established on the Selector Assembly. (See "Service Switch Operation".) Hold the service switch in the left position until the carriage is near the right hand end of base and release it.

Starting at the left end of the magazine (A-1, A-2), *insert one record in each record space.* The left side of all records will be the odd number selections. Thus A-1, A-5, B-7, C-3, D-1, etc., all will be left sides, and A-2, A-6, B-8, C-4, D-2, etc., will be right sides of records. *CAUTION: Do not force records into record spaces!* Any normal record will roll very freely into record spaces. A record which is warped badly enough to have any tendency to bind in the magazine space would not be properly played in any automatic mechanism and should not be used.

When the left half of the magazine has been loaded with records, scan the carriage to the left end of the base and load the right half of the magazine. *After the magazine has been loaded, set the service switch to the "on" position. (to the right.)*

PROGRAM HOLDERS

The complete Program Holder is removable from the cabinet. It is held in place by magnetic latches. To remove it, open the cabinet lid, setting the support as shown in Figure 2. Pull the complete assembly toward you. See Figure 4. The individual program holders can be removed separately as desired by hooking a finger under the top of the holder and sliding it out of the guides.

A complete set of title strips is provided with the instrument. These can be found in the cash bag. Title *strips are loaded into program* holders by sliding the strip into the desired

slot. The record titles for both sides of a record are to be put on one individual double strip, with the title for left side on the upper half of the strip and the title for the right side on the lower half of the strip. Thus when a record is inserted in the magazine the selection corresponding to the top title will face left. Spare classification headings are provided and will be found in the cash bag. Classification headings can be changed in the program holder by carefully bowing the heading, withdrawing from under the retaining springs, and replacing the classification heading.

POPULARITY METER

A popularity meter is provided behind the "Record Now Playing" indicator at the top of the magazine. It is exposed to view by swinging the cover downward past the front of the "Record Now Playing" indicator. The popularity of each of the fifty records is indicated by 50 indicator wheels. Each wheel is calibrated from 0 to 50 and shows approximate total number of plays (both sides) the corresponding record has had.

For a quick check of record popularity, the indicating wheels are part blue and part aluminum finish. Less than 10 plays are shown in the blue area while 11 or more are indicated in the aluminum area.

TO RESET THE POPULARITY METER

The lever at the right hand end of the meter partially resets the wheels each time it is pressed and released. It should be operated until all the wheels indicate zero.

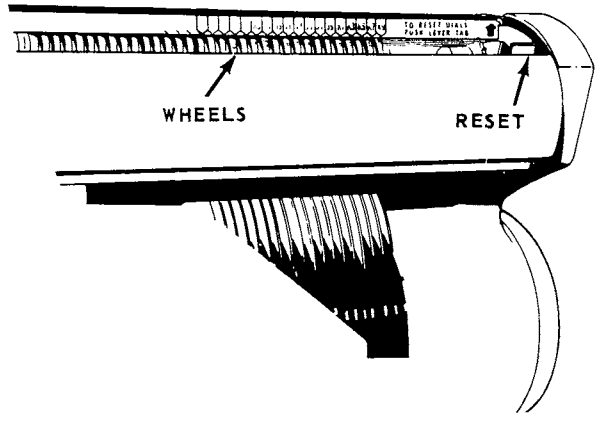


Figure 3. Popularity Meter Reset

SELECTION COUNTER

A selection counter is built into the right side of the electrical selector. This counter totals SELECTIONS made from the electrical selector and Wall-O-Matics. The counter may be read by opening the glass lid, pulling the program holder forward as shown in Figure 4, and lifting the rubber flap covering the dials.

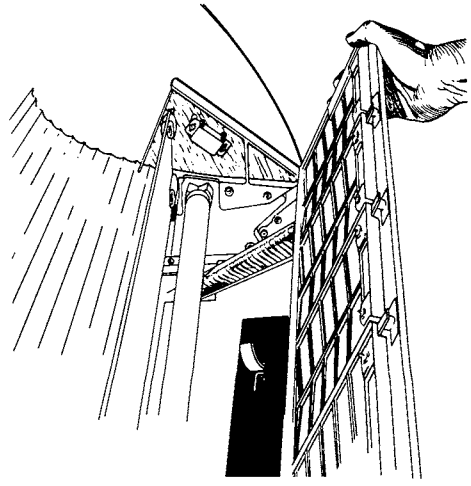


Figure 4. Cabinet Front - Inside View

Although this counter is intended primarily as a selection counter, the approximate total value of coins received in the phonograph and Wall-O-Matic cash boxes may be figured as follows (assuming six plays for a quarter):

1. Subtract the present counter reading from the last reading. (The reading taken when the cash boxes were last emptied.)

2. From this figure subtract the total number of quarters in all cash boxes (phonograph plus all connected Wall-O-Matics.)

3. Multiply by .05 to obtain value in dollars.

EXAMPLE:

Present counter reading	11792
Last counter reading	10680
Difference	1112
Number of quarters	78
	1034
	x.05
Approximate cash	$51.70

NOTE: The counter may register slightly higher or lower than the actual number of selections, because of the multiple count during simultaneous operation of two or more wall boxes.

AUDIO SYSTEM

The Select-O-Matic Audio System is of the "constant voltage" type: the amplifier output does not change when the speaker load is varied. This means that the volume from any speaker in the system will not change noticeably when other speakers in the system are added or removed. Independent adjustment of volume at each speaker is possible; connections and speaker cable runs are simplified; and, within limits, impedance matching problems are eliminated.

AMPLIFIER, TYPE MRA5-L6

The amplifier unit is capable of delivering 25 watts of audio power, which can be divided in various proportions between the phonograph speakers and remote speakers. A terminal board is provided on the amplifier for connection of remote speakers.

AUDIO CONTROLS

The Master Remote High Fidelity Amplifier is equipped with a keyed volume control which is accessible through a hole in the rear door. It is inoperative when a remote volume control is used.

Bass and treble controls are located at the top of the amplifier panel and are accessible by opening the rear door. Room size and wall coverings determine the proper setting for each control. With typical records and location, very realistic reproduction is obtained by setting Bass on No. 3 and setting Treble on No. 3. Treble boost is obtained on No. 4 and rather severe Treble cut is had on No. 1.

AUTOMATIC VOLUME COMPENSATOR

An automatic volume compensator is incorporated in the amplifier. It compensates for the variations in the average volume levels of different records and makes possible a volume control setting for normal records without danger of blasting or high volume due to exceptionally "loud" records. A 4-position switch on the amplifier provides a choice of degree of volume compensation from zero (off) to maximum.

Operation of the compensator may be checked by removing the muting circuit plug from the amplifier while records are playing. Normal operation is indicated if, when the plug is taken out, the sound from a low volume record will fade almost completely away; that from a record of average volume will decrease in loudness. Little effect will be noted if a "loud" record is being played when the plug is pulled out. The change in volume, if any, will take place slowly, not suddenly when the muting plug is pulled out and replaced. Approximately six to eight seconds will be required to restore the volume to the original level after the plug is replaced.

SPEAKER HOOKUP

Electrically, the five phonograph speakers are connected in a series-parallel combination across the amplifier output to obtain optimum amplifier loading.

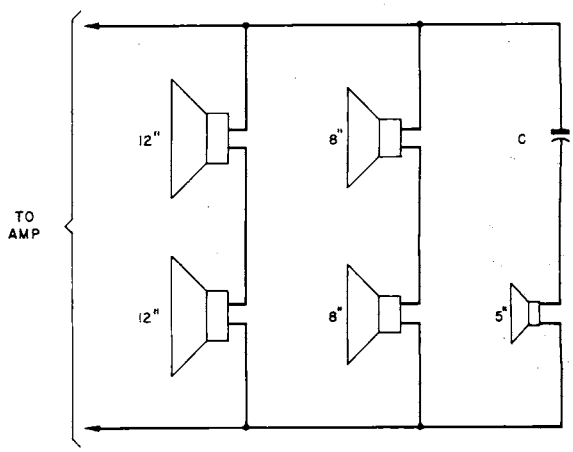


Figure 5. Phonograph Speaker Connections

SELECT-O-MATIC PHONOGRAPH SPEAKERS

Five permanent magnet type speakers are mounted in the HF100R Select-O-Matic Cabinet: two 12-inch, low frequency speakers and one 5-inch, high frequency speaker on the front baffle, and one 8-inch, wide range speaker on each side panel. This arrangement provides an omnidirectional sound distribution pattern, giving the listener nearly equal quality and loudness of sound regardless of where he sits in relation to the phonograph.

SPEAKER REQUIREMENTS

Except in small locations, adequate distribution of sound at uniform level thru-out the service area can be obtained only by careful placement of a sufficient number of High Fidelity remote speakers.

REMOTE SPEAKERS

In order to preserve the high quality obtainable from the MRA5-L6 High Fidelity Amplifier, when remote speakers are to be used, the following types must be used:

A. Type HFCV1-12 Recessed Speaker (Grill type for wall or ceiling mounting-70-Volt Constant Voltage Type.)

B. Type IIFCV2-8 Wall Speaker (Wood Cabinet-wall mounting Constant Voltage Type.)

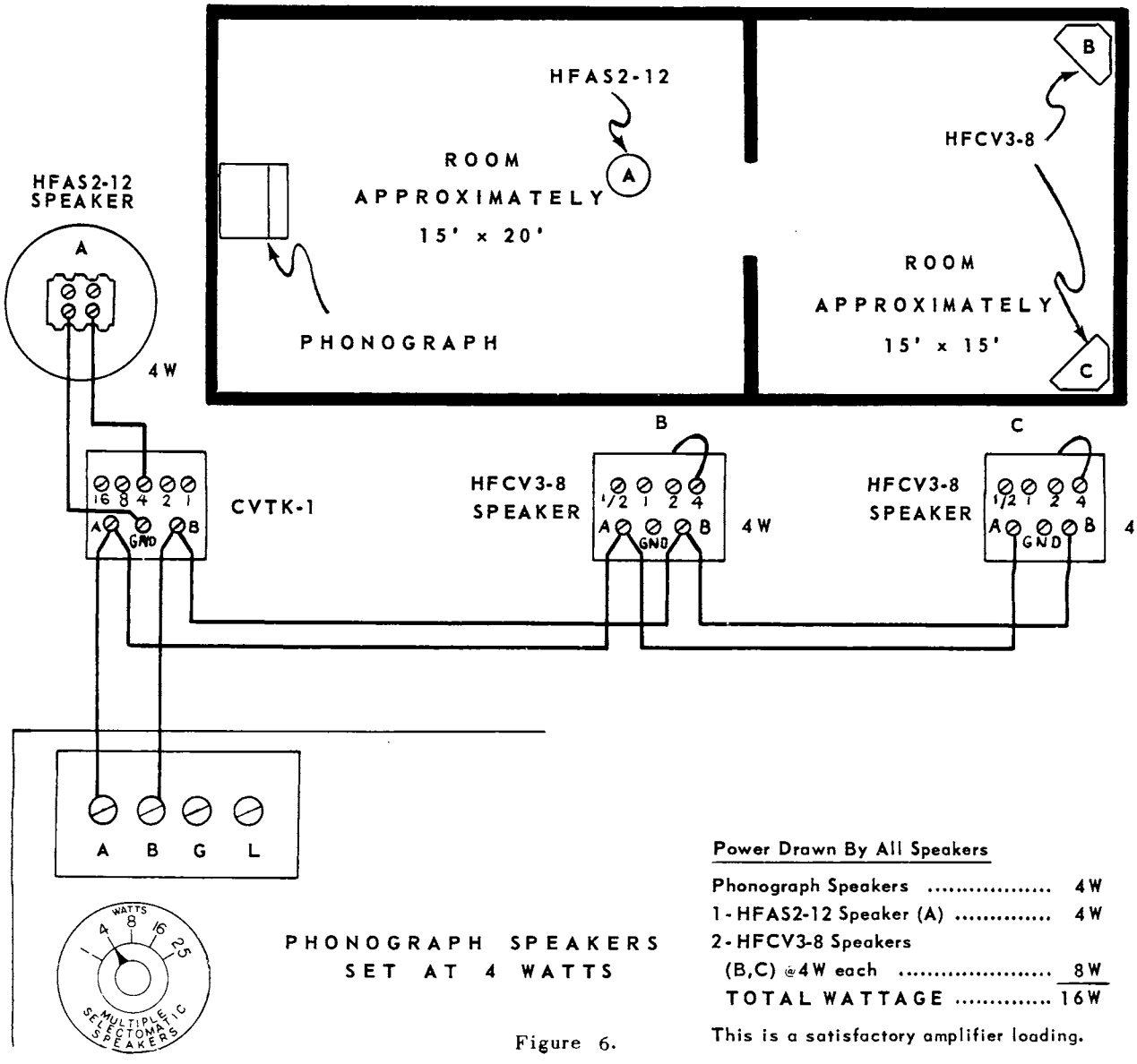
C. Type HFCV3-8 Corner Speaker (Wood Cabinet-ceiling corner or floor mounting-70-Volt Constant Voltage Type.)

D. Type HFAS2-12 Recessed Speaker (Grill type for wall or ceiling mounting-16 ohm, 8 watts.)

CONNECTION OF HIGH FIDELITY REMOTE SPEAKERS

1. Constant Voltage Type High Fidelity Speaker terminals are marked A and B and are connected to matching terminals A and B on the amplifier. The volume level (watts) may be set at each speaker to suit local requirements. A load of 16 watts can be carried by No. 24 wire (Part No. 502090) for CV line lengths up to 600 feet.

2. If 16 ohm type High Fidelity Speakers are to be used, a maximum of 2 may be connected to this amplifier. They are connected in



PHONOGRAPH SPEAKERS SET AT 4 WATTS

Figure 6.

Power Drawn By All Speakers

Phonograph Speakers	4W
1-HFAS2-12 Speaker (A)	4W
2-HFCV3-8 Speakers (B,C) @4W each	8W
TOTAL WATTAGE	16W

This is a satisfactory amplifier loading.

parallel directly to terminals L and G on the amplifier. With this connection 8 watts will be available at each speaker. Wire sizes and line lengths are given below:

For wiring of Speakers; see instruction folder packed with each speaker and kit.

3. If the proposed 16 ohm speaker line is too long for practical wire size, or if more than 2 speakers are needed, convert the speakers to CV operation by installing one or more transformer kits; Type CVTK-1. Connect the line to terminals A and B of the amplifier.

See CVTK-1 instruction folder packed with each kit.

WIRE SIZE A.W.G.	SEEBURG PART NO.	MAXIMUM LINE LENGTH (FOR 10% POWER LOSS)	
		1 Speaker 8 Watts	2 Speakers 16 Watts
24	502090	32 feet	16 feet
22	–	50 feet	25 feet
20	*502294	80 feet	40 feet
18	51941	140 feet	65 feet
16	*502229	200 feet	100 feet
14	–	320 feet	160 feet
12	–	500 feet	250 feet

* SHIELDED

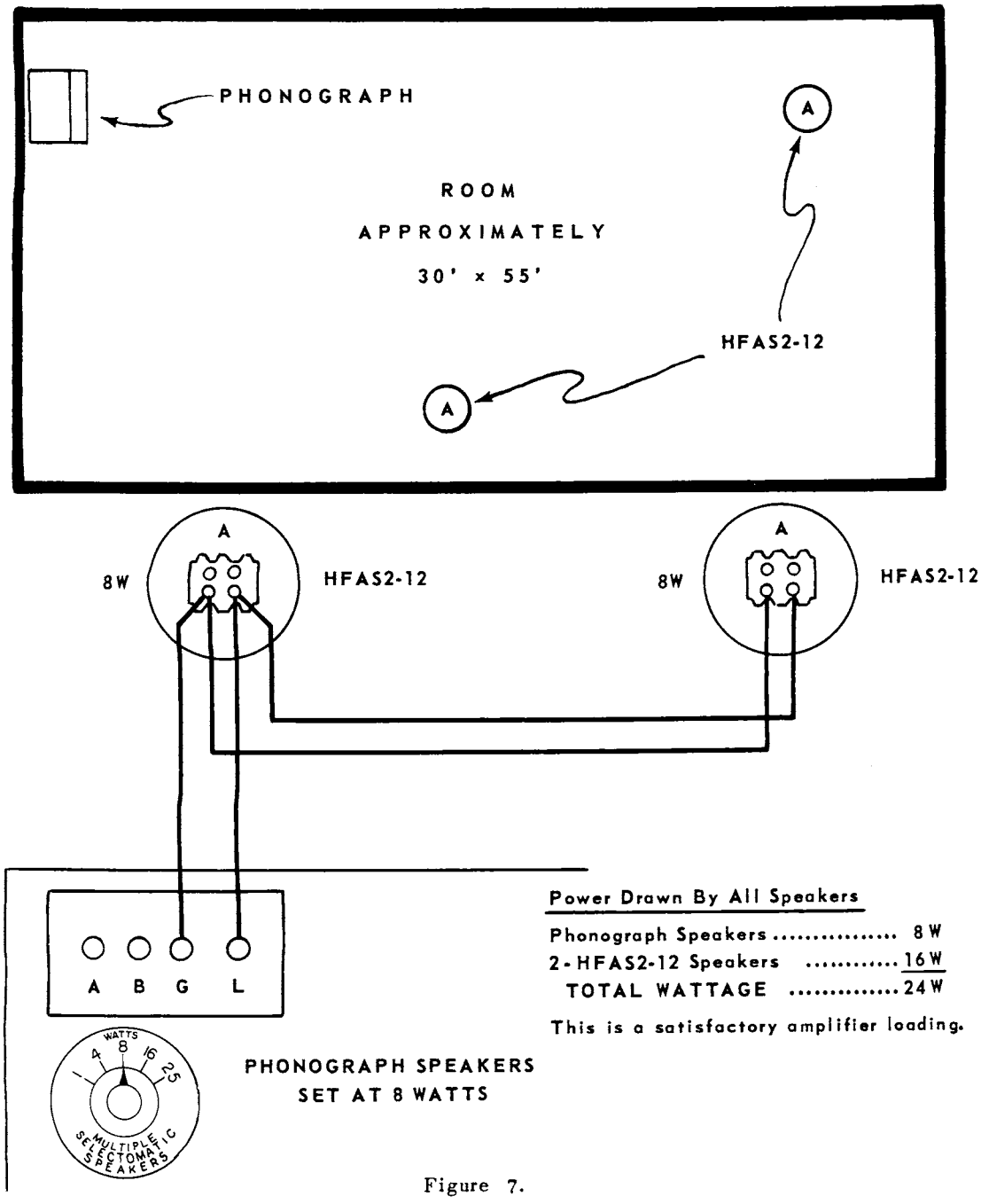


Figure 7.

SELECT-O-MATIC SPEAKER SWITCH

Set the Multiple Select-O-Matic Speaker Switch on the front of the amplifier chassis to the position which gives the best balance between the Select-O-Matic Speakers and the remote speakers with normal volume control setting. IF NO REMOTE SPEAKERS ARE USED, THE SWITCH MUST BE SET TO 25 WATTS.

The wattage of all speakers must be added (including the Select-O-Matic Speakers) and the total watts absorbed by all speakers must not exceed 25 watts, which is the power rating of the MRA5-L6 Amplifier. At no time should the total amplifier load be less than six watts. (25% of rated amplifier load.)

NOTE: If the wattage of all speakers (including the Select-O-Matic Speakers) to be connected to the Master Remote High Fidelity Amplifier, Type MRA5-L6, exceeds 25 watts, a power amplifier, Seeburg Type HFA1-L6, may be used to supply part of the load. Follow the instructions supplied with the amplifier for connecting speakers.

WALL-O-MATIC "100", Type 3W1

The remote choice of 100 selections is made possible by the Wall-O-Matic "100", Type 3W1 which pulses the Selection Receiver to register selections on the Select-O-Matic "100" Mechanism. A sufficient number of these units should be used and placed to provide convenient selection from all parts of the location.

Power to operate up to six Wall-O-Matics is available from the Wired Selection Receiver. When more than six Wall-O-Matics are used, additional power supplies (Type PS6-1Z, are required. For each power supply that is added, six additional Wall-O-Matics may be used.

The wiring of the Wall-O-Matics is facilitated by the use of special cable, *Seeburg Part No. 12015*, which is available in continuous lengths as required. Details of wiring and installing the Wall-O-Matic "100" are included in the instruction folder shipped with each Wall-O-Matic "100".

Bar Bracket Assembly, *Seeburg Part No. 500185*, is available for rigidly mounting the Wall-O-Matic on bars, counters and tables.

MASTER REMOTE VOLUME CONTROL, TYPE NO. MRVC-1 (Accessory)

The Master Remote Volume Control, Type MRVC-1 comes completely wired and ready for use. Although equipped with 60 feet of cable, inherent loss compensation permits as much as 100 feet with no appreciable loss in frequency response. It is only necessary to remove the 7-prong dummy plug from the Master Remote Amplifier and the 2-prong Cancel Plug from the Wired Selection Receiver and replace with the corresponding plugs on the cable of the MRVC-1, and dress the cable to the permanent position selected for the control unit. Screws and cable clamps furnished with this kit make it easy to do a neat, workmanlike installation.

MICROPHONE PREAMPLIFIER AND MIXER, TYPE PAK3-L56 (Accessory)

The Microphone Preamplifier and Mixer Kit, Type PAK3-L56, may be used with the Select-O-Matic Model HF100R on any installation requiring the transmission of voice or live music thru the Seeburg Sound Distribution System.

HIGH FIDELITY CONSTANT VOLTAGE SPEAKER CONTROL, TYPE HF25LT-2 (Accessory)

This is a control designed for use with Constant Voltage Speaker lines. It can be used to control the power (in 3 db steps) to one or more High Fidelity Constant Voltage type speakers, or it can be used with 16 ohm High Fidelity Speakers that are operating with a Type CVTK-1 Transformer Kit.

TESTING

After the installation has been completed, all units should be carefully tested to see that they perform properly. Make several selections from the Electrical Selector and from each Wall-O-Matic and see that the selections made have correctly registered on the Selector Assembly. Check the quality of music, and note that music can be heard at a comfortable volume level in all parts of the service area. See that all cables are dressed into inconspicuous places to present a neat appearance and prevent mechanical damage to them.

GENERAL MAINTENANCE

RECORD CARE

To avoid accumulation of dust and dirt, keep oil off the records. Wipe your hands with a clean cloth before handling records, and always handle records by edge and center hole. Records that show signs of surface dust or dirt should be wiped with a slightly dampened cloth, using a circular motion. Use only water to dampen the cloth-solvents will damage the records. Records not in use should be stored on edge in a cool place. Avoid exposing the records to excessive heat. Records become overheated in a very short time if exposed to direct sunlight or if stored in a closed automobile or truck. Temperature above 120° F. should be avoided.

See instructions on "Placing the Select-O-Matic "100".

PICKUP STYLUSES

The styluses of the new high fidelity magnetic pickups are permanently mounted in the removable armature assemblies. See Figure 8. The extremely low armature mass, high compliance, and low stylus force of this quality pickup greatly increases stylus life and record life. The armature assemblies furnished with the Seeburg magnetic pickup are tipped with natural Swiss sapphire which is excelled in hardness and wear resistance only by diamond. When the amature assemblies are changed, all movable pickup parts are renewed and "new" pickup performance is completely restored. There is no need to replace the pickup; it is permanent because it has no moving parts.

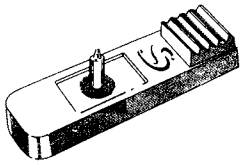


Figure 8. Armature Assembly

STYLUS REPLACEMENT

In the presence of friction, wear of the stylus starts with the first play and continues until the stylus is replaced. The tone quality is good and distortion remains at a low figure for the first few thousand plays but gradually distortion increases until a disagreeable amount is noticed.

When only pure vinylite 45 rpm records are used, armature assemblies with sapphire styluses should be changed every four or five thousand plays to maintain good reproduction. If, because of the presence of oil on the records, dust or dirt is permitted to accumulate and remain on the surface, the wear will be more rapid; economical operation will require more frequent armature assembly replacement.

If the Armature Assemblies are not replaced before objectionable distortion sets in, the records may be permanently damaged, and replacing the Styluses will not restore the original tone quality.

Because the cost of a pair of armature assemblies is only a small fraction of the cost of a set of records, it is economically sound to replace them on a regular schedule rather than on a hit-or-miss basis. A schedule can be most easily determined from instrument income. The armature assemblies with sapphire styluses should be changed according to the following table if the records are arranged for approximately equal distribution of play between the right and left sides of the pickup:

Approximate Weekly Gross Receipts:	* Change Both Armature Assemblies Every
$ 25	4 months
$ 50	2 months
$ 75	6 weeks
$100	4 weeks
$150	3 weeks

* Maximum stylus life

The table is based on five cents per selection and four to five thousand plays for each stylus.

DIAMOND STYLUSES

With the use of a diamond stylus, many times the above number of plays per replacement is assured. The long run economy more than outweighs the higher purchase price. Armature assemblies with diamond styluses that fit the Seeburg Magnetic Pickup Head are obtainable through your Seeburg Distributor.

TO REPLACE ARMATURE ASSEMBLIES

1. Make an odd numbered selection to right of magazine center (F5) to position carriage and pickup arm cradle for easiest access to styluses.

2. Remove worn styluses by placing thumb nail against plastic armature assembly just behind raised shoulder. Light pressure in the direction away from the stylus point will cause replaceable assembly to slide free of cartridge slot.

3. Install new armature assembly by laying it FLAT in open end of cartridge slot, and sliding forward in slot until it bottoms. Use thumb nail against plastic raised shoulder in reverse of Step 2 to complete travel when the assembly bottoms.

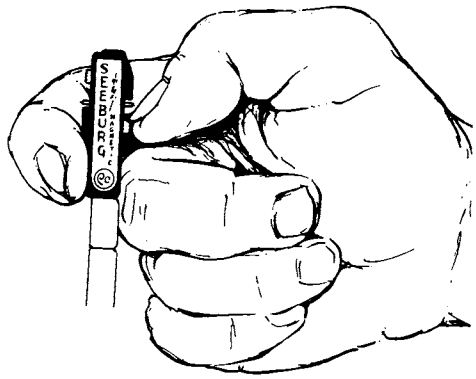


Figure 9. Removing Armature Assembly

In order to retain good quality of reproduction it is necessary to keep the pickup and styluses clean and in good condition.

CAUTION: The pickup and styluses must be handled carefully or the delicate armature suspension may be damaged.

When records are changed, or the equipment is cleaned the styluses and the stylus brushes should be cleaned by using the small brush furnished for this purpose and mounted on the baffle board in back of program frame assembly.

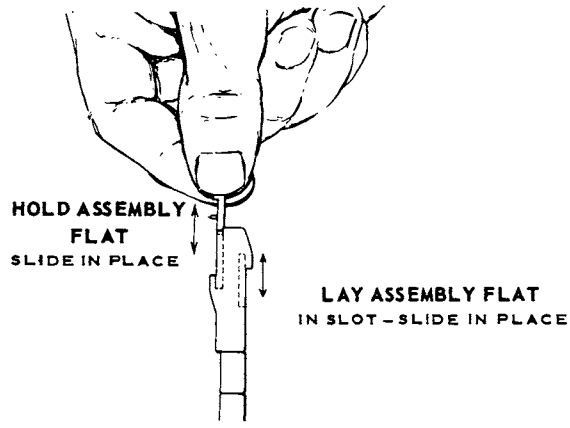


Figure 10. Installing New Armature Assembly

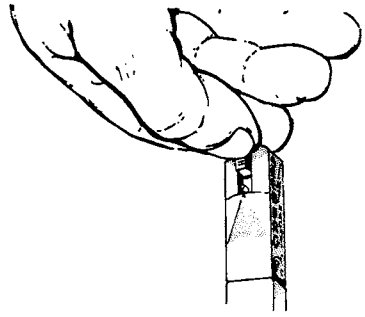


Figure 11. Installing New Armature Assembly

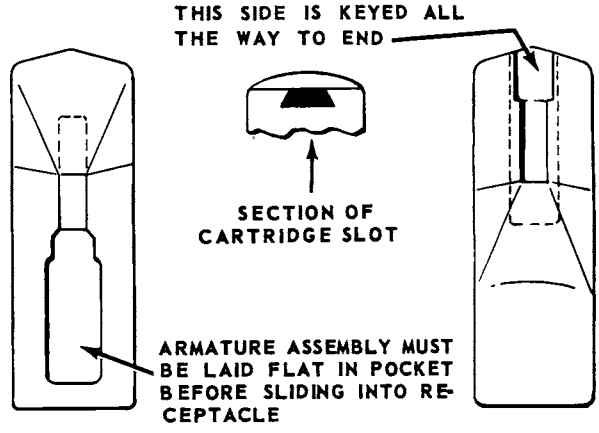


Figure 12. Keyed Fit of Armature Assembly

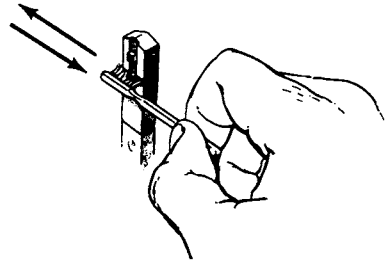


Figure 13. Clean Stylus Regularly

MECHANISM ACCESS

To bring mechanism into place for "in the cabinet" servicing:

1. Open lid, remove program holder, diffuser glass and, for safety, the fluorescent lamp.
2. Unlock mechanism frame by removing "OUTER" c-washer on each channel locking pin; remove locking pins.
3. Slide mechanism forward on wooden mounting rails and rest on front casting. Lubrication and minor adjustment and servicing can be done in this position.

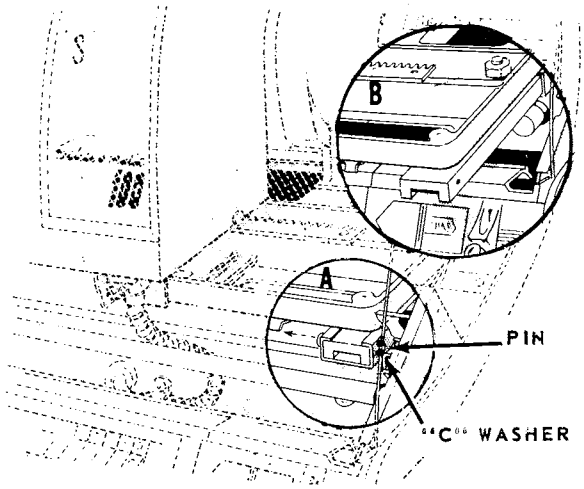


Figure 14. Mechanism Access

COMPLETE REMOVAL OF MECHANISM

When necessary to remove mechanism from cabinet for servicing, proceed as above and in addition:

4. Disconnect Mechanism & Selector Assembly cables from Amplifier and WSR Chassis.
5. Remove Mechanism Cable Positioning Clamp from baffle board below fluorescent lamp.
6. Slide mechanism forward, clear of channel guides and lift out.

REAR ACCESS PANEL

Service of Selector Assembly is possible, without disturbing mechanism, by removing the small panel above rear door.

TO REMOVE THE PANEL

1. Open rear compartment door.
2. Reach up thru rubber flap covered hole in mechanism shelf and pull latch lever down to release panel catch.
3. Panel is spring loaded and will come out practically unassisted.
4. To reinstall, engage bracket at left side and press right side forward till it latches.

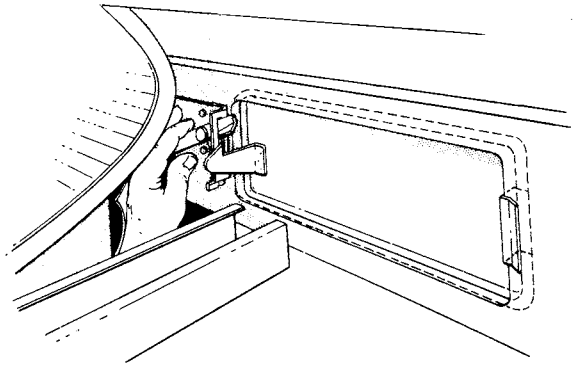


Figure 15. Removing Rear Access Panel

TO REMOVE CARRIAGE COVER

The carriage cover must be removed for lubricating and servicing the mechanism.

1. Select an odd number selection (F-1) to get pickup to the left side.
2. Cover the pickup cartridge with the plastic protective case.
3. Remove the top screw on the right hand brush holder and turn the holder until the brush is at the top.
4. Remove the two mounting screws: one is a Phillips type shoulder screw and is located on the lower left hand side of cover; the other is an oval head Phillips screw located on top.

TO REINSTALL THE CARRIAGE COVER

5. Make sure the pickup arm is in the left side playing position.
6. Carefully lower the cover over the carriage, making sure the notch at the bottom edge on the right hand side engages the support stud on the carriage.
7. Fasten cover and brush with their respective screws.

LUBRICATION

The mechanism and other mechanical parts should be lubricated periodically. The recommended lubricants are Seeburg Select-O-Matic Oil, Part No. 53014, and Aero Lubriplate, Part No. 53006.

Seeburg Select-O-Matic Oil is a light machine oil, especially suited to lubrication of small machinery operated normally in the "room temperature" range. It is free of waxy constituents, *pours easily at low temperatures*, and has exceptional anticorrosive properties.

Follow the complete lubrication instructions given on the lubrication chart in the envelope on the wall of amplifier compartment.

LAMP REPLACEMENT

Fluorescent–

Access to the 25 watt (33 inch) Daylight fluorescent lamp or lamp starter is gained by first removing the program assembly. To remove the fluorescent lamp rotate the lamp 90° in either direction and lift out of sockets.

Medallions–

Remove by rotating COUNTER CLOCKWISE one-eighth turn and pulling straight out. Lamp sockets are then easily accessible.

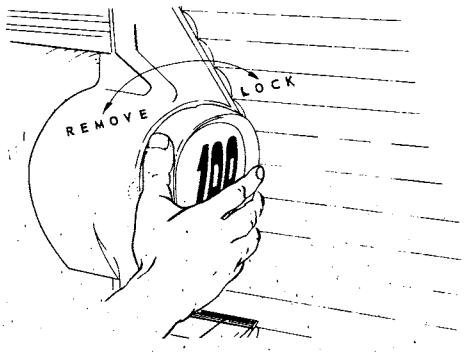


Figure 16. Medallion Lamp Replacement

To reinstall, insert into opening with numerals upright; back off in counter-clockwise direction, applying slight inward pressure, until medallion drops to full depth of recess; rotate clockwise one-eighth turn to lock in place.

"SELECTION-NOW-PLAYING" LAMP

1. Select K-4 and while this record is in play position turn off the phonograph at the main switch. Swing the popularity meter cover down exposing the lamp assembly.
2. Loosen the screw which holds the light bracket to the top of the bakelite block. Slide the socket assembly to the right to clear the block. Lift out the lamp assembly.
3. Replace lamps and lightly fasten assembly in place with pigtail lug under screw head.
4. Turn on the main switch. Adjust the socket assembly by sliding the bracket to the left or right until a clean-cut rectangular window of light is centered on K-4. Tighten the screw and raise the cover to normal position.

"SELECT" LAMPS ON KEY PANEL

Remove program holder, reach behind front casting and pull socket clip off casting. After lamp replacement, insert clip in casting recess with single prong down. Slide forward till socket snaps in place.

SLUG REJECTOR

Adjust position of cable in clamp so plunger button at front of cabinet extends 5/8".

.015" Miniumum Clearance

To remove SLUG REJECTOR depress retaining Clip with thumb of right hand and pull out with index finger as shown.

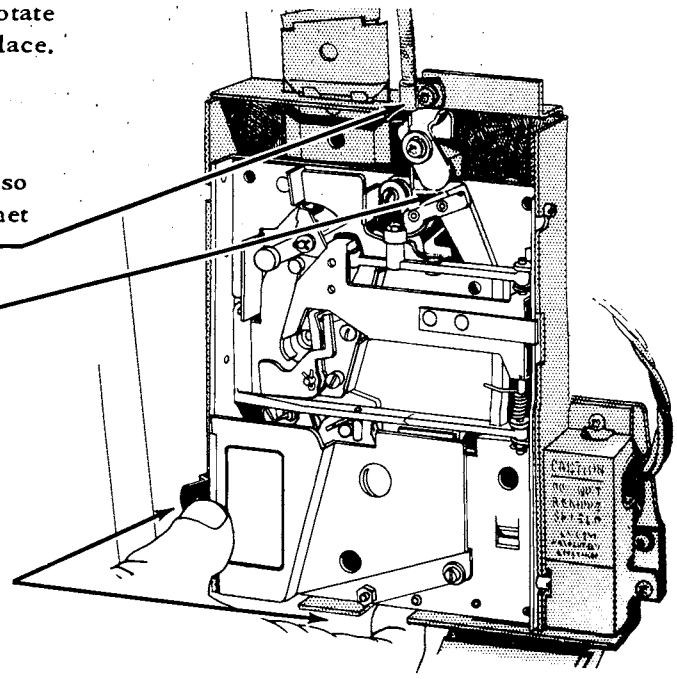


Figure 17. Cable Adjustment

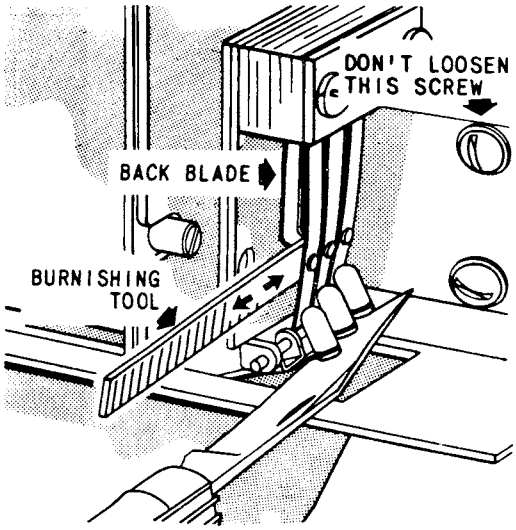


Figure 18. Coin Switch Cleaning

Clean the switch contacts carefully with carbon tetrachloride using a No. 2 camel hair brush.

Burnish by inserting a burnishing tool between the contacts, raising the switch lever with a knife blade as shown in Figure 18. *Never use a file or sandpaper for contact cleaning.*

DO NOT ATTEMPT ANY BENDING ADJUSTMENT IF THE SWITCH MEETS CONDITIONS OUTLINED ON FIGURES 19, 20 and 21.

1. Insert a dime at top of the slug rejector while supporting the switch actuating lever with a knife blade. The coin rests on the lever as shown in Figure 20.

2. Move the knife blade slowly to the right to release the coin. The contacts must come together and the back blade should move approximately 1/64" just before the coin drops through of its own weight. (See Figure 19).

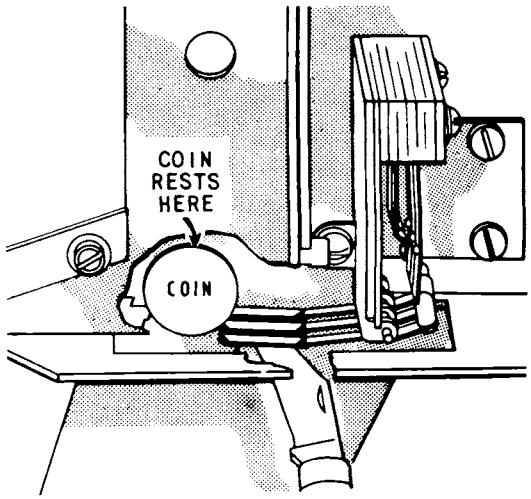


Figure 20. Coin Position

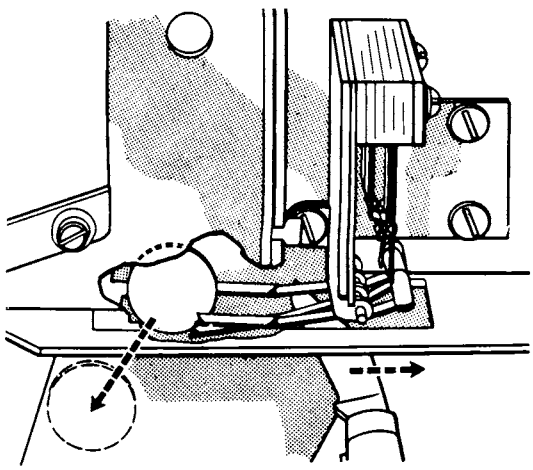


Figure 19. Coin Travel

The coin switch levers should be parallel with the opening in the gage plate and the center lever (10¢) should center on the projection of the gage as shown in Figure 21 Lateral play of the lever should be taken into account when checking the position of the 10¢ switch lever.

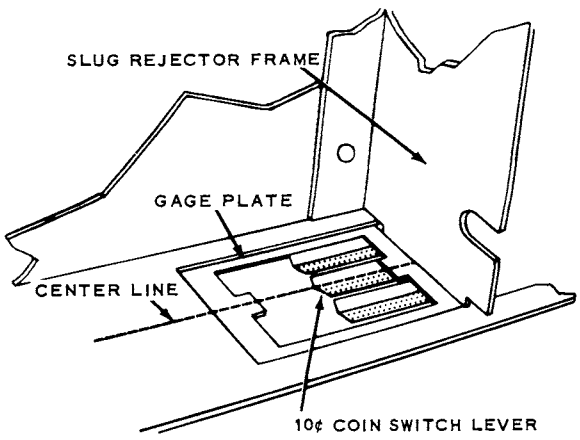


Figure 21. Coin Switch Lever Position

If the proper contact is not made or the coin does not drop through of its own weight adjustment should be made as outlined below.

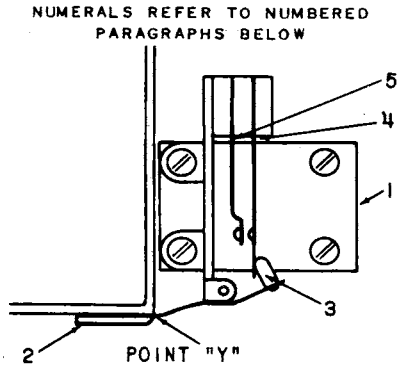


Figure 22. Coin Switch Asjustment

1. Adjust position of coin switch mounting so switch levers bear at point "Y".

2. Adjust levers to be parallel to and against bottom surface of frame.

3. Adjust switch actuating cams to be tilted approximately as shown and overlap the blade approximately 3/32".

4. Bend long blade at this point for 4 to 5 grams tension toward cam as measured at switch contact point.

5. Bend short blade at this point so it moves approximately 1/64" when coin is slowly released as in Figures 19 and 20.

NOTE: It is important that the ENDS of the bracer blades support the short contact blades support the short contact blades as shown in Figure 23.

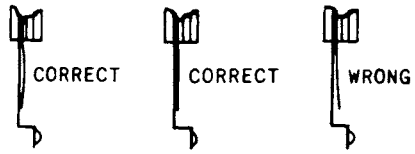


Figure 23. Bracer Blade Adjustment

TO REPLACE A BROKEN SIDE GLASS

Replacement of a broken side glass necessitates the removal of some of the fluted interior trim. The procedure given here must be followed for greatest facility.

1. Completely remove mechanism from cabinet to prevent damaging. *(See instructions)*
2. With lid at maximum opening, remove upper fluted trim section. *(See instructions for Removal and Reinstallation of Plastic Rivets.)*

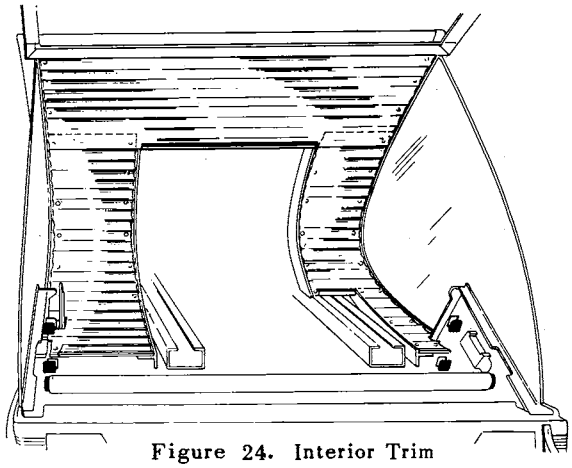


Figure 24. Interior Trim

3. Remove lower trim (R.H. or L.H.) as required. (For replacement of left hand glass, it is necessary to disconnect lid support from lid glass frame by removing c-washer, and dropping bar down into slot till it rests on bottom.)
4. Remove side glass clamp and program frame support casting.
5. To reassemble, follow the reverse of the above four steps.

(CAUTION: To assure good glass fit, check side glass position by closing lid, BEFORE final tightening of side glass clamp and program frame support casting.)

PLASTIC RIVET REMOVAL

Using a 3/32 inch diameter pin punch, drive center pin of rivet completely through. With pin out, the hollow shank rivet can be withdrawn from hole.

NOTE: Rivets are reuseable if carefully removed. Replacement rivets are available from your Seeburg Distributor's Service Department as Part No. 79188.

PLASTIC RIVET REINSTALLATION

Place hollow shank rivet in hole through both pieces to be fastened. Insert plastic pin in head and drive till flush with top of rivet head.

New rivets come in one piece with pin in position to be driven into place.

APPEARANCE

To maintain good appearance of the phonograph, and thus keep customer appeal at its maximum level, the various pieces of glass should be kept clean: lid glass, side glasses, program holder glass, diffuser glass, and glass baffles.

Use only clear liquid cleaners, as types containing powder can mar gold script on lid glass, impair reliability of electrical contacts, and cause excessive wear of records, styluses, and mechanism bearings.

Interior trim and all chrome plated parts also should be cleaned occasionally. These parts include, Key Panel Frame, Program Holder, and plated parts in the mechanism compartment.

PREPARING INSTRUMENT FOR MOVING

1. Put the two ¼ inch wood shims under the base at the mechanism hold-down bolts.
2. Tighten three mechanism hold-down nuts.
3. Remove all records from magazine.
4. With the pickup arm in left hand side playing position, scan mechanism to a point midway between selections "A5" and "A7".
5. Place protective tube over pickup cartridge and install pickup arm shipping support.
6. Put two fibre pads under the carriage wheels and bolt the carriage to the base by means of two 4½ inch long thumb screws, (a long one in the rear and a short one in the front) which are to be inserted thru mechanism shelf from rear of cabinet.

TO SHIP

If the instrument is to be shipped by way of a transportation company, it should be blocked and crated in the same manner in which it was received from the factory.

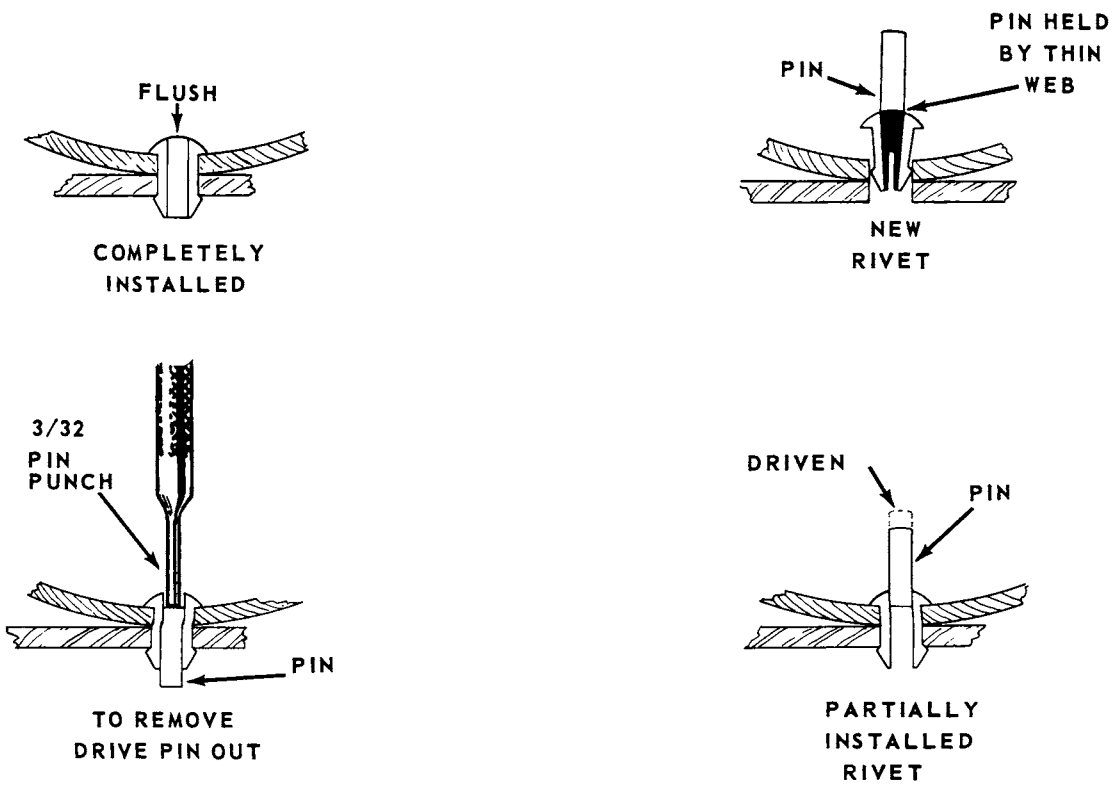


Figure 25. Plastic Rivets

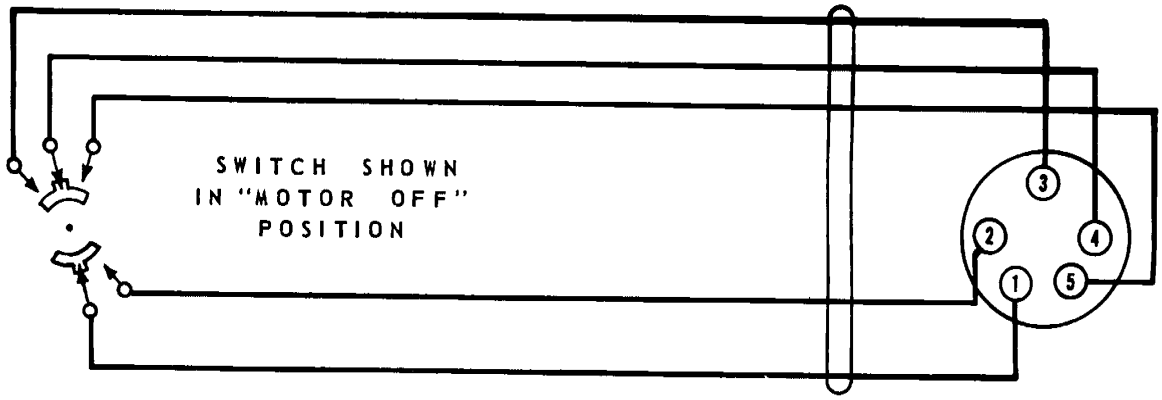


Figure 26. Schematic Diagram - Service Switch

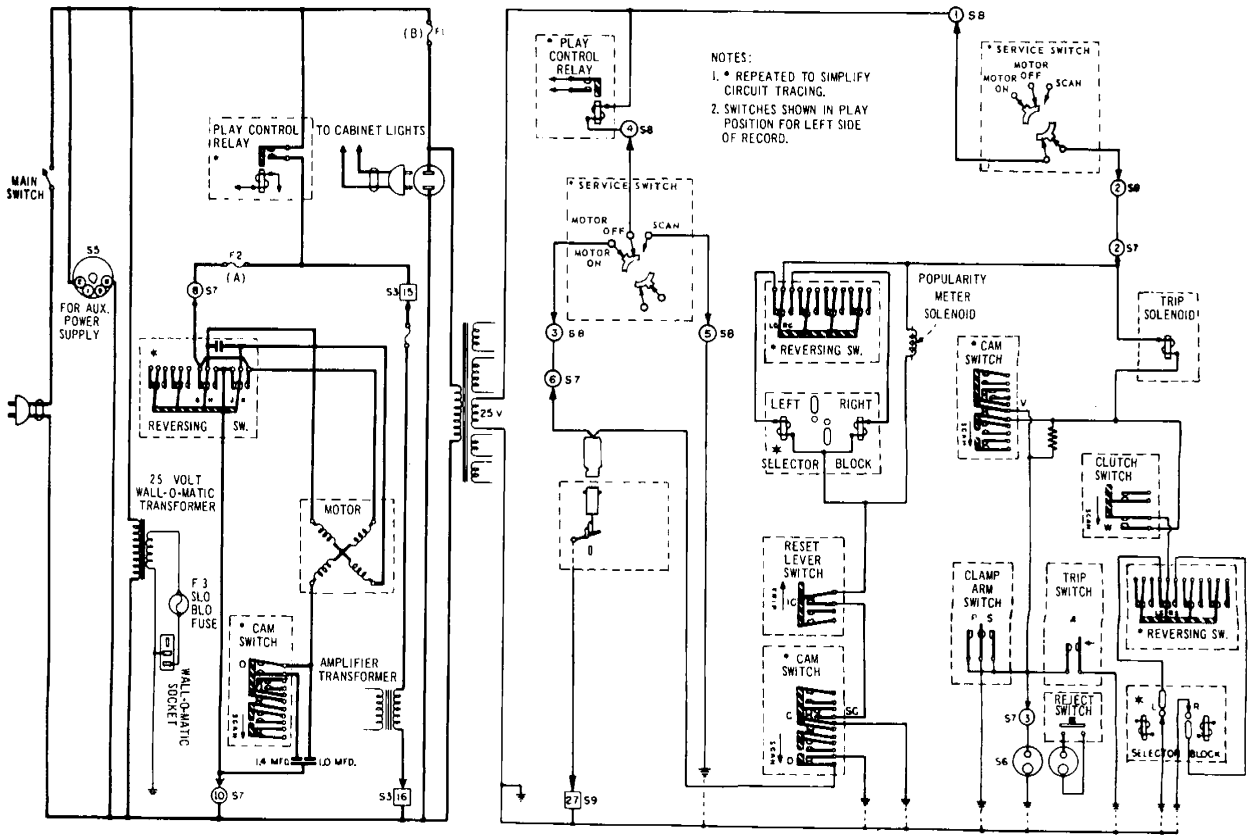


Figure 27. Schematic Diagram - Power & Control Wiring, 145S14-L6 Mechanism & WSR7-L6 Selection Receiver.

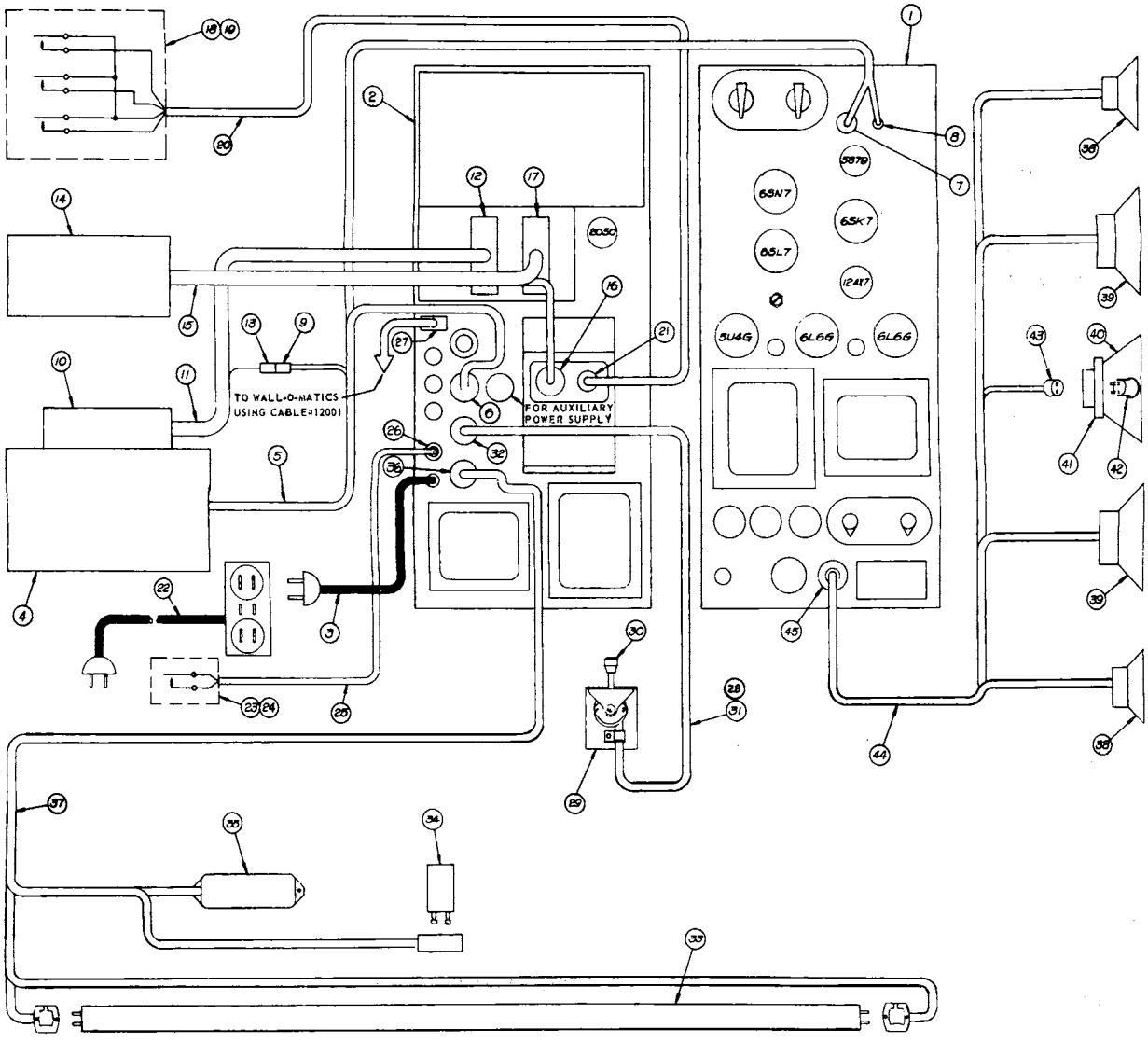


Figure 28. Cabinet Wiring Diagram

PARTS LIST

Item	Part No.	Part Name
1	305152	MASTER REMOTE AMPLIFIER (MRA5-L6)
2	303320	WIRED SELECTION RECEIVER (WSR7-L6)
3	303334	LINE CORD ASSEMBLY
4	246300	SELECT-O-MATIC MECHANISM (145S14-L6
5	246950	CONTROL CABLE AND PLUG ASSEMBLY
6	250942	11 PRONG PLUG
7	A250938	3 PRONG PLUG (MUTE)
8	246957	SINGLE PRONG PLUG
9	250707	CONNECTOR (FEMALE)
10	304452	SELECTOR ASSEMBLY (100SA8-L6
11	304437	SELECTOR CABLE AND PLUG ASSEMBLY
12	F-9461	27 PRONG PLUG
13	250706	CONNECTOR (MALE)
14	410400	ELECTRICAL SELECTOR (ES11-L6)
15	410465	ES CABLE AND PLUG ASSEMBLY
16	12028	OCTAL PLUG
17	400844	27 CONTACT FEMALE PLUG
18	401760	COIN SWITCH AND CABLE ASSEMBLY
19	401314	COIN SWITCH
20	401761	CABLE AND PLUG ASSEMBLY
21	401521	4 PRONG PLUG (SMALL)
22	402152	LINE CORD AND OUTLET ASSEMBLY
23	405654	RECORD REJECT SWITCH AND CABLE ASSEMBLY
24	402065	RECORD REJECT SWITCH
25	405742	RECORD REJECT SWITCH CABLE & PLUG ASSEMBLY
26	402066	2 PRONG PLUG
27	12015	3 CONTACT PLUG
28	407195	SERVICE SWITCH CABLE, PLUG & BRACKET ASSEMBLY
29	407244	SERVICE SWITCH
30	407239	KNOB
31	407198	SERVICE SWITCH CABLE AND PLUG ASSEMBLY
32	200241	5 PRONG PLUG
33	405136	25 W. FLUORESCENT LAMP
34	405138	STARTER (FLUORESCENT LIGHT) 25 W.
35	405101	BALLAST 25 W. FLUORESCENT LAMP
36	10895	2 PRONG PLUG
37	405693	PROGRAM LIGHT CABLE ASSEMBLY
38	407280	8" SPEAKER
	407282	8" SPEAKER
	407284	8" SPEAKER
	407290	12" SPEAKER
39	407292	12" SPEAKER
	407294	12" SPEAKER
40	407270	HIGH FREQUENCY SPEAKER
41	86218	CONDENSER
42	406261	2 CONTACT MALE SOCKET
43	406349	2 CONTACT FEMALE PLUG
44	407300	SPEAKER CABLE ASSEMBLY
45	F-3150	4 PRONG PLUG

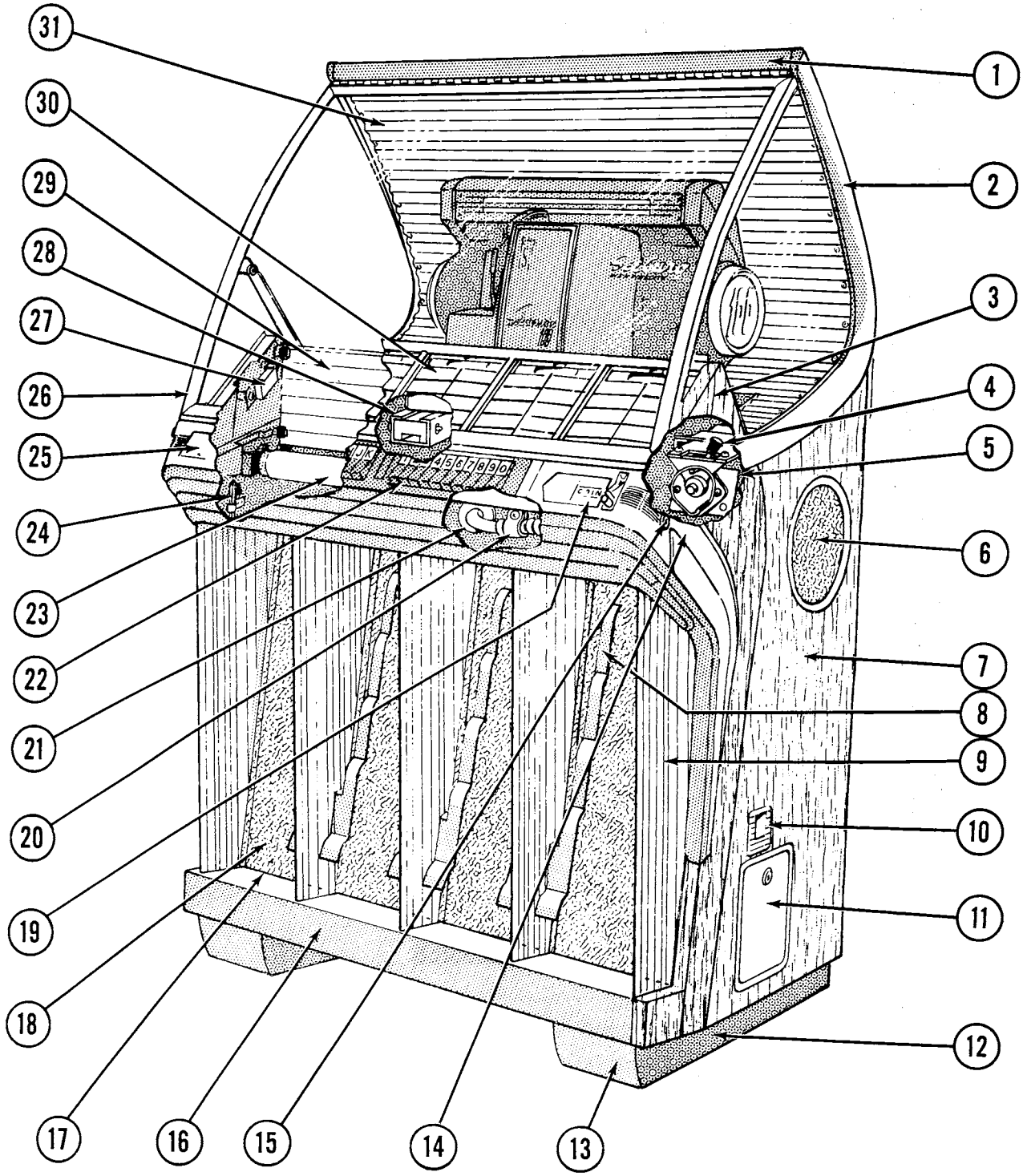


Figure 30. Front View HF100R Cabinet Assembly

PARTS LIST on Reverse Side

PARTS LIST

Item	Part No.	Part Name
1	407013	Top Rail
2	407011	Upper Side Casting R.H.
	407012	Upper Side Casting L.H.
	77231	No. 10 x 5/8 Phillips R.H.W.Screw
	70846	8/32 x ¾ Phillips R.H.M.Screw
	407051	Side Glass
	407052	Side Glass Clamp R.H.
	407053	Side Glass Clamp L.H.
	70772	8/32 x 3/8 Phillips R.H.M.Screw
	73082	Lock Washer
3	407324	Program Frame Support and Decal Assembly R.H.
	407321	Decal Blank R.H.
	407017	Program Frame Support Casting R.H.
	407325	Program Frame Support and Decal Assembly L.H.
	407322	Decal Blank L.H.
	407018	Program Frame Support Casting L.H.
4	407244	Service Switch Only
5	407195	Service Switch Assembly
6	407247	Bezel
	407248	Grille Screen (back)
	407249	Grille Screen (front)
	70895	8/32 x ½ Phillips B.H.M.Screw
	72385	Flat Washer
7	407120	Cabinet Only
	407346	Sans Art Pearl Sea Mist Decal 30" x 48"
	407347	Sans Art Olive Burl Decal 34" x 50"
8	407027	Grille Ornament R.H.
	407028	Grille Ornament L.H.
	70886	8/32 x 1" Phillips B.H.M.Screw
	70793	8/32 x ¾ Phillips B.H.M.Screw
	72135	Flat Washer
9	407202	Glass Baffle Assembly R.H.
	407203	Glass Baffle Assembly L.H.
	77239	No. 8 x 5/8 Phillips R.H.W.Screws
10	407304	Slug Receptacle Assembly
11	407141	Cash Box Door Frame
	407142	Cash Box Door Assembly
	407143	Cash Box Door Only
	406340	Cash Box Lock
12	407107	Foot Trim Strip R.H.
	407108	Foot Trim Strip L.H.
13	407021	Toe Casting
	77303	No. 6 x ½ Phillips B.H.W.Screw
14	407144	Cabinet Casting Assembly
	407145	Cabinet Casting Sub Assembly
	407184	Cabinet Corner Casting Assembly R.H.
	407185	Cabinet Corner Casting Assembly L.H.
	407014	Cabinet Center Casting
	406034	Latch Bracket Assembly L.H. (First Electric Selector)
	406035	Latch Bracket Assembly R.H. (First Electric Selector)
15	407156	Lid Lock R.H.
	407157	Lid Lock L.H.
	407065	Lid Lock Bolt
	406043	Bolt Pivot Bar
	70782	10/32 x ¼ Phillips R.H.M.Screw
	72136	Flat Washer
	73091	Lock Washer
16	407242	Kick Plate
	77250	No. 6 x ½ Phillips Flat H.W.Screw
17	407345	Grille Filler (Bottom)
18	407153	Grille Cloth
	407194	Grille Cloth Retainer
19	407130	Coin Window 5 cent Play
	407131	Coin Window 10 cent Play
20	245999	Cable Clamp
21	407251	Cable Bushing
22	410210	Selector Key Panel
23	405136	Fluorescent Light (25 watt)
	407352	Light Socket (2)
	407353	Starter
24	405219	Brush Only
	405220	Brush Holder
25	406180	Instruction Window
	406160	Window Retainer
	70204	Speed Nut
26	407040	Cabinet Lid Assembly
	407041	Cabinet Lid Glass
	407042	Cabinet Lid Frame (Top)
	407044	Cabinet Lid Frame (Side)
	407043	Cabinet Lid Frame (Bottom)
	407046	Lid Catch R.H.
	407047	Lid Catch L.H.
	70781	8/32 x 5/16 Phillips F.H.W.Screw
	407048	Lid Support Bracket Assembly
	407050	Lid Hinge
	71712	6/32 x 3/8 Phillips Flat H.M.Screw
	407045	Glass Retainer
	76192	6/32 x ¼ Phillips B.H.Self Tapping Screw
27	407169	Magnet
28	407162	Chassis Mounting Channel
29	407098	Diffuser Glass
30	407167	Program Holder & Frame Assembly
	407168	Program Frame Assembly
	406300	Program Glass (AB)
	406301	Program Glass (CD)
	406302	Program Glass (EF)
	406303	Program Glass (GH)
	406304	Program Glass (JK)
	406051	Program Holder Assembly (AB)
	406014	Program Holder Only
	406050	Program Holder Spring
	404675	Retainer Washer
	72158	Flat Washer (7/16 x .140 x .031)
	406052	Program Holder Assembly (CD)
	406053	Program Holder Assembly (EF)
	406054	Program Holder Assembly (GH)
	406055	Program Holder Assembly (JK)
	406320 thru 406335	Classification Heading (Sold in Sets Only)
	406061	Program Identification Label Card
31	407059	Interior Trim (Upper)
	407058	Interior Trim (R.H.)
	407059	Interior Trim (L.H.)
	407174	Trim Cap
	407175	Trim Cap
	407176	Trim Cap
	79188	3/16 x 7/32 Plastic Rivet

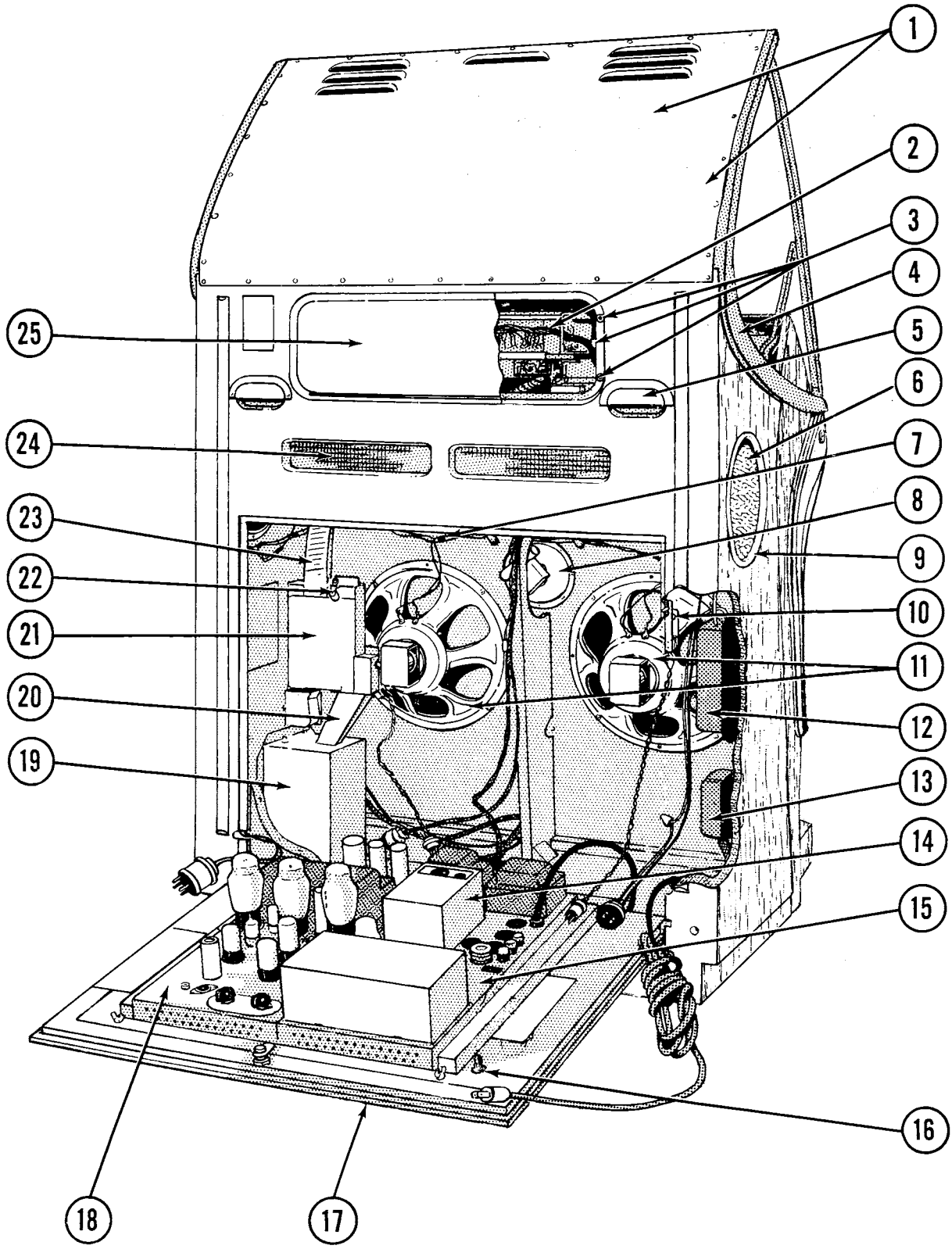


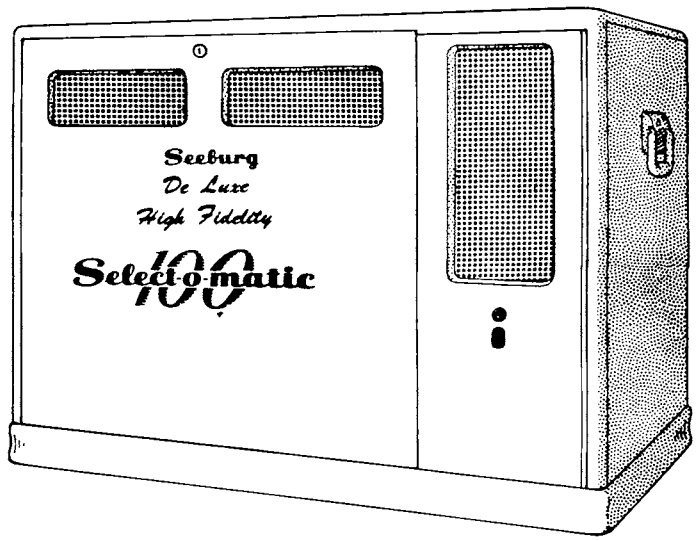
Figure 31. Back View HF100R Cabinet Assembly

PARTS LIST on Reverse Side

PARTS LIST

Item	Part No.	Part Name
1	407061	Back Panel Welded Assembly
	76189	No. 6 x 3/8 Phillips R.H.S.Top Screw
	76190	No. 6 x 5/8 Phillips R.H.S.Top Screw
2	304452	100SA8-L6 Selector Assembly
	304433	Contact Block Assembly
3	407106	Panel Latch Assembly
	407189	Panel Latch Spring
	407192	Bullet Catches
4	407011	Upper Side Casting R.H.
	407012	Upper Side Casting L.H.
	77231	No. 10 x 5/8 Phillips R.H.W.Screw
	70846	8/32 x ¾ Phillips R.H.W.Screw
5	407327	Cabinet Handle
6	407280	Speaker (8") Permoflux
	407282	Speaker (8") Jensen
	407284	Speaker (8") Utah
7	407300	Speaker Cable Assembly
8	407270	Utah Tweeter
	86218	Condenser (5A) - 406261-2 prong plug)
9	407247	Bezel
	407248	Grille Screen (back)
	407249	Grille Screen (front)
	70895	8/32 x ½ Phillips B.H.M.Screw
	72358	Flat Washer
10	405654	Record Reject Switch Assembly
	402065	Record Reject Switch
	402064	Record Reject Pin
	405742	Record Reject Switch Cable Assembly
11	407290	Speaker (12") Permoflux
	407292	Speaker (12") Jensen
	407294	Speaker (12") Utah
12	405101	Light Ballast (25 watt)
13	402152	Line Cord & Outlet Assembly
14	400640	CCU3-L6 Credit & Cancel Assembly
15	303320	WSR7-L6 Wired Selection Receiver
16	404321	Eye Bolt
	404320	Tee Bolt
	404674	Chain
17	407188	Back Door Assembly (Complete)
	407155	Rear Door Lock
	407328	Lower Rear Door Cover Plate Assembly
18	305152	MRA5-L6 Master Remote Amplifier
19	407193	Cash Box Assembly
	405745	Cash Box Lock Plate
	404659	Cash Bag
20	401298	Lower Coin Chute Welded Assembly
21	401720	Coin Mechanism (Complete)
	401731	Slug Rejector Mtg. Frame Assembly
	401760	Coin Switch Cable Assembly
	401314	Coin Switch
	401521	Plug (4 prong)
	401255	Slug Rejector Mtg. Stud
	404731	Slug Rejector
	405410	Slug Rejector (Alternate for 404731)
	401307	Coin Switch Guard
22	401740	Scavenger Wire & Plunger Assembly
	401741	Scavenger Wire Housing
	401223	Plunger Return Spring
23	401625	Coin Chute
24	407255	Vent Screen
25	407105	Access Panel Riveted Assembly

SEEBURG SELECT-O-MATIC "100"
MODEL HHF100R



The Select-O-Matic "100" R. C. Special, Model HHF100R is for use in "hide-away" installations where the available space does not permit the use of the Model HF100R. It uses the Seeburg Select-O-Matic "100" Mechanism for selective playing of either or both sides of fifty 45 r.p.m., 7-inch records with 1½ inch center hole. Choice of any of the one hundred selections is made by remote control with the 100-selection, 3-wire Wall-O-Matics. Sound is distributed to the areas to be served by means of High Fidelity remote speakers connected to the High Fidelity Master-Remote Amplifier in the R. C. Special.

The cabinet is of wood, finished in blue wrinkle lacquer and is divided into two compartments. One compartment contains the Select-O-Matic "100" Mechanism, the other is used for the electronic equipment. Doors on the front and back provide access to the mechanism for record changing and service. Switches, which operate when the front door is opened, turn on service lights for illumination of the mechanism and connect a monitor speaker for checking records and amplifier operation. A three position service switch is located in the mechanism compartment. When the switch lever is set in the vertical (center) position, the power is off, and the mechanism will not operate even though selections are "set up" on the Selector Assembly. When the switch lever is moved to the left, against the spring return, it causes the mechanism to scan the carriage; in this position it will scan past and bypass selections set up on the Selector Assembly. The service switch must be set towards the right for normal operation.

A Seeburg Magnetic Pickup assures long record life and high quality reproduction uneffected by temperature or humidity conditions. A High Fidelity 25-watt amplifier connects to the monitor speaker and to remote speakers. The amplifier incorporates an automatic volume compensator to provide uniform volume level and avoid "blasting" due to "loud" records. The volume of the sound from the High Fidelity remote speakers is controlled by means of a volume control which can be installed at any conveniently accessible place. The volume control is mounted in a small metal case which includes a push button for cancelling a playing selection.

A Selection Receiver incorporates the switches and relays for remote selection operation as well as the control circuits of the mechanism and provides power for up to six Wall-O-Matics. An Auxiliary Power Supply unit (furnished as standard equipment) provides power for operation of up to six additional Wall-O-Matics. The Selection Receiver and the furnished Power Supply Unit will, then, furnish power for up to twelve Wall-O-Matics. More than twelve Wall-O-Matics may be used by the addition of more auxiliary power supplies – one for each additional six Wall-O-Matics. The Selection Receiver is equipped with sockets for convenient plug-in connections for the mechanism, cabinet lights, amplifier, and control circuits. A Selection Counter is a part of the Receiver and totals the number of selections made from the Wall-O-Matics. It may be used to check the total of coins in the Wall-O-Matics and for an approximate check of the number of plays of the mechanism.

A Popularity Meter is included in the mechanism for determining the number of times the different records have been played.

The Selection Receiver and the Amplifier are mounted on a door *at one end of* the cabinet and are in a vertical position. The door may be opened for access to the tubes, fuses, and connections or it may be fully removed. The units are hinged at the lower edge and, by removing two readily accessible wing nuts, they may be lifted away from the door panel for inspection or service of the interior wiring or tube and plug socket connections during normal operation.

Major assemblies furnished as standard equipment in the Model HHF100R are:

1 - Type 145S15-L6 Select-O-Matic Mechanism with Type 100SA9-L6 Selector Assembly.

1 - Type MRA5-L6 Master Remote High Fidelity Amplifier.

1 - Type WSR8-L6 Wired Selection Receiver.

1 - Type PS6-1Z Wall-O-Matic Power Supply.

1 - Type MRVC-1 Master Remote Volume Control Kit.

SPECIFICATIONS

Power Requirements:

117 volts, A.C., 60 cycle
Standby (without Wall-O-Matics)..... 40 watts
Operating (without Wall-O-Matics).....200 watts
For each 3W1 Wall-O-Matic, add to standby power requirements..... 15 watts

Cabinet Key Number.....F279

Record Capacity.....50 records (100 selections)

Record Type.....45 rpm, 7-inch diameter, 1.5-inch center hole.

Pickup.....Seeburg High Fidelity Magnetic

Monitor Speaker.....5" p.m.

Amplifier:

8-tube, High Fidelity Constant Voltage Type with Automatic Volume Compensator.

Audio Power Output (at full volume)..... ..... 25 watts, max.

Remote Speakers:

Seeburg High Fidelity Type

Remote Control:

Type.....Seeburg, 3-wire "Wall-O-Matic "100"
Nominal operating voltage..... 25
Power source for Wall-O-Matics.....Selection Receiver and Power Supply.....(Type PS6-1Z).
Maximum number of Wall-O-Matics operated from Selection Receiver..... 6
Maximum number of Wall-O-Matics operated from Power Supply..... 6

Tubes:

1 - 5879
1 - 6SN7
1 - 6SK7
1 - 6SL7
1 - 12AX7
1 - 6L6GT
1 - 5U4G
1 - 2050

Fuses:

1 - 5 amp. 3AG

1 - 3 amp. 3AG

1 - 1 amp. 3AG Slo-Blo

1 - 2 amp. 3AG Slo-Blo

2 - 3 amp. Fustat

Dimensions:

Height ..... 27½ Inches
Width ..... 36 Inches
Depth (front to back) ..... 23 Inches
Net Weight..... 208 Pounds
Shipping Weight..... 254 Pounds

SELECT-O-MATIC "100"
R. C. SPECIAL, MODEL HHF100R
INSTALLATION and OPERATION

The Select-O-Matic "100" Hide-Away Model HHF100R is similar in most operational respects to the Model HF100R. The installation and operation data for the Model HHF100R, manual pages 1211 to 1225, applies except where reference is made to cabinet features, the electrical selector, and the speaker connections. The speaker connections are the same as detailed for the HHF100G on manual pages 1207 and 1208.

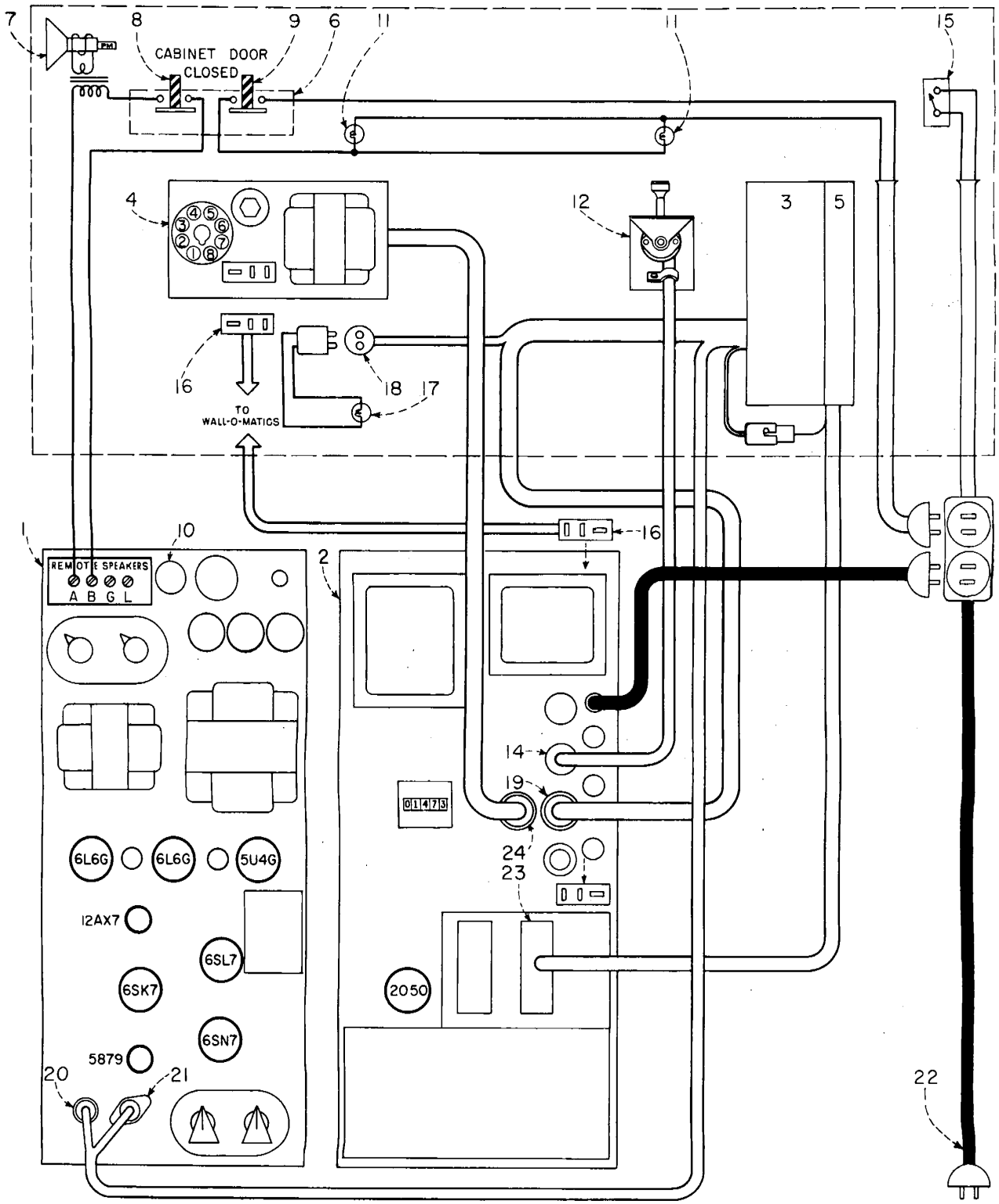
Parts lists for the HHF100R are the same as for the HF100R except as noted in the parts lists below and referenced in the cabinet cabling diagram on page 1234.

PARTS LIST FOR CABINET CABLING DIAGRAM

Item	Part No.	Part Name
1	305152	Power Amplifier, Type MRA5-L6
2	303315	Wired Selection Receiver, Type WSR8-L6
3	246302	Select-O-Matic Mechanism, Type 145S15-L6
4	60485	Auxiliary Power Supply, Type PS6-1Z
5	304319	Selector Assembly, Type 100SA6-L6
6	405370	Speaker & Light Switch Cable Assembly
7	402785	Monitor Speaker
8	600024	Speaker Switch
9	600024	Light Switch
10	305223	4-Prong Plug
11	404165	Cabinet Light Socket
12	407195	Service Switch Assembly
14	200241	5-Prong Plug
15	303112	Toggle Switch
16	12015	3-Prong Plug
17	404825	Pilot Light & Jewel Assembly
18	A251751	2-Prong Socket
19	A250942	11-Prong Plug
20	K228440	Single Prong Plug
21	A250938	3-Prong Plug (Amphenol)
22	405366	117 v. Line & Plug Assembly
23	F-9461	27-Prong Plug
24	12004	9-Prong Plug

ADDITIONAL PARTS LIST

Part No.	Part Name
406573	Cabinet Handle
406574	Floor Screen (Mechanism)
406575	Floor Screen (Electronic)
406576	Cabinet Screen (Electronic)
406579	Lower Chassis Mounting Angle
407382	Hook & Upper Chassis Mtg. Angle
903300	3/16-24 Wing Nut
405395	Hinge & Mtg. Strap Assembly
405392	Latch
407155	Door Lock
406583	Door Vent Screen
502094	"Seeburg" Escutcheon
407162	Chassis Mounting Channel
407262	Caster
404672	Door Chain Assembly
125364	Main Switch Mtg. Plate
916635	Thumb Screw (Shipping)
405272	Caution Label



CABINET CABLING DIAGRAM

Seeburg

SELECT-O-MATIC "100"

MODEL

HF100R-D

The Select-O-Matic "100", Model HF100R-D and Model HF100R are identical except in the coin system and the parts associated with it. The Model HF100R-D is set up for three plays for a 25-cent coin and one play for a dime or two nickels. The specific differences of the two models are in the coin instruction window, the nickel coin switch, the slug rejector and rejector mounting, and the Selection Receiver. Except for these, the description and service information for the HF100R, pages 1209 to 1230, inclusive, apply to both instruments.

The coin instruction window reads "3 plays – quarter – – 1 play – dime or two nickels"

The slug rejector is designed to accept quarters, dimes and nickels and incorporates a "nickel diverter" that makes possible the use of two nickels for one play. Each quarter and dime operates, respectively, a quarter and dime coin switch but only alternate nickels operate the associated nickel coin switch. The operation of the diverter is such that the first of two nickels is diverted from the coin switch. The coin passes into the cash box but tilts the diverter so the second nickel operates the coin switch as it drops from the rejector. In this manner, the 5-cent coin switch is closed only once for two nickels and, because this switch and the dime switch are both connected to the credit solenoid that is in the 1-credit position, one credit will be set up for 10 cents whether it be a single 10-cent coin or two nickels.

The slug rejector with the nickel diverter requires a mounting frame and lower coin chute different than that shown in the parts lists for the HF100R. These and other parts that differ are listed below.

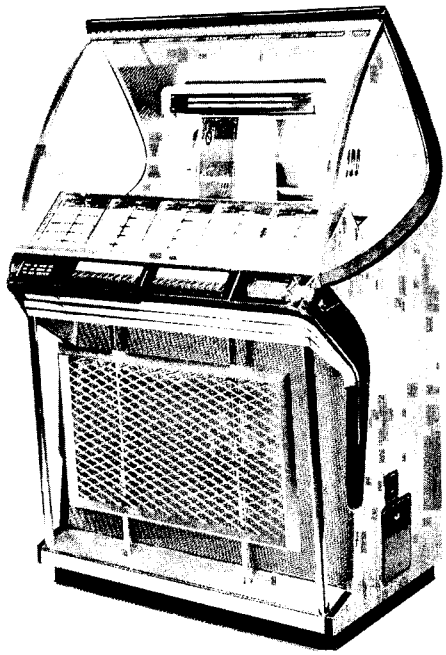
The coin switch assembly with its cable and plug are similar in both models but the 5-cent coin switch actuating lever is 1/16" shorter when the diverter equiped slug rejector is used. The 5-cent and 10-cent coin switches are interconnected in the Credit and Cancel Unit. For this reason, the Credit and Cancel Unit and the Selection Receiver used in the HF100R-D are not interchangeable with those used in the HF100R and are identified by different type and part numbers. These are listed below with reference to their equivalent in the Model HF100R.

PARTS LIST

PAGE	ITEM	DESCRIPTION	Part No. HF100R	Part No. HF100R-D
1226	2	Wired Selection Receiver	303320 (WSR7-L6)	303317 (WSR7-L6D)
	18	Coin Switch & Cable Assembly	401760	401766
	19	Coin Switch	401314	401749
1227	19	Coin Window	407130	407444
1229	14	Credit & Cancel Assembly	400640 (CCU3-L6)	400649 (CCU3-L6D)
	15	Wired Selection Receiver	303320 (WSR7-L6)	303317 (WSR7-L6D)
	20	Lower Coin Chute Welded Assembly	401298	401750
	21	Coin Mechanism (Complete)	401720	401723
		Slug Rejector Mtg. Frame Assembly	401731	401745
		Coin Switch Cable Assembly	401760	401766
		Coin Switch	401314	401749
		Slug Rejector	404731	401374

Seeburg
HIGH FIDELITY
Select-o-matic 100

MODELS 100J and 100JL



The Select-O-Matic "100" Model 100J and Model 100JL are coin operated phonographs that are the same except in cabinet finish and in the color or finish of some of the exposed mechanism parts. The letter N or D following the model number designates the selection pricing specification. N indicates five cents per selection (six for twenty-five cents); D indicates ten cents per selection (three for twenty-five cents). Both are equipped with the Select-O-Matic "100" Mechanism for selective playing of either or both sides of fifty 45 r.p.m., 7-inch records. Choice of any of the one hundred selections may be made at the instrument with Electrical Selector or by remote control with 100-selection, 3-wire Wall-O-Matics. A program holder using standard size title strips displays the entire hundred selection program and may be removed as a complete unit or in sections of 20 titles.

The program title strips are back-lighted by a 25-watt fluorescent lamp which also illuminates the mechanism, the speaker grille, the electrical selector escutcheons, grille baffles, and ornaments.

The lid glass through which the mechanism may be seen is hinged and opens for changing records and title strips. The cover is retained at any position of opening by a self-locking support rod. A Service Switch, a Credit Switch, a Popularity Meter and a Selection Counter are accessible with the lid open. The Service Switch and Credit Switch are used to operate the mechanism when servicing the instrument. The Popularity Meter, which is a part of the mechanism, indicates the number of times (up to 50) each record is played. The Selection Counter, which is part of the Electrical Selector, totals the number of selections made with the Electrical Selector and with remote control Wall-O-Matics. A rubber flap covers the counter dials.

Coins are deposited in a single entry coin chute and pass through a 5-, 10-, 25-cent slug rejector to the coin switches. The coins are stored in a canvas bag which has a capacity of approximately one-hundred fifty dollars. The bag is removed through a small door at the lower right side of the cabinet.

A Seeburg Magnetic Pickup with one-fifth ounce stylus pressure assures long record life and high quality reproduction unaffected by temperature or humidity conditions. A 25-watt

High Fidelity Amplifier connects to three permanent magnet type speakers: two 12-inch and one 8-inch. A terminal strip is provided for connection of High Fidelity Constant Voltage Type Remote Speakers. The amplifier incorporates an automatic volume compensator to provide uniform volume level and avoid "blasting" due to "loud" records. A single volume control is used to adjust the volume of sound from the phonograph speaker and the remote speakers. Provision has been made for plug-in connection of a remote volume control that may be up to a hundred feet from the Select-O-Matic without introducing hum or causing distortion.

A Selection Receiver supplies power for remote control Wall-O-Matics and incorporates the switches and relays for operation from remote points as well as from the Electrical Selector. It is equipped with convenient sockets for plug-in connections of the mechanism, cabinet lighting, amplifier, and control circuits.

The Selection Receiver and the Amplifier are mounted in a vertical position on the inside of the cabinet rear door. The door may be opened for access to the tubes and fuses or it may be fully removed. The units are fastened over an opening which is covered by a plate. The plate, which is held in place with wing nuts, may be removed to expose the tube socket and plug connections and the interior wiring of the units for test during normal operation.

A selection cancel switch, effective only when a record is playing, is operated by a small, inconspicuous button on the back near the left side of the cabinet. A remote cancel switch or button may be substituted by plug-in connection to the selection receiver.

SPECIFICATIONS

Power Requirements:
Standby (without Wall-O-Matics) - 85 watts
Operating (without Wall-O-Matics) - 230 watts

Cabinet Lighting:
1 - 25-watt, 33-inch, Daylight Fluorescent (FS25 starter.)

Cabinet Key Number.....F279

Mechanism.....).....100J: Type 145S16-L6
100JL: Type 145S18-L6

Selector Assembly.... 100J: Type 100SA10-L6
100JL: Type 100SA11-L6

Record Capacity.....50 records (100 Selections)

Record Type.....45 rpm
7-inch diameter, 1.5-inch center hole

Pickup.....Seeburg High Fidelity Magnetic

Phonograph Speakers:
2-12" PM (Low Frequency)
1- 8" PM (High Frequency

Finish..100J: Striped Mahogany and Woven Cane Plastic Veneer
100JL: Bleached Mahogany Plastic Veneer

Coin Equipment.....5-, 10-, 25-cent Single Entry
Slug Rejector with Nickel Diverter (used on 100J-D and 100JL-D)
Slug Rejector without Nickel Diverter (used on 100J-N and 100JL-N)

Amplifier..... Type HFMA1-L6J
8-tube, High Fidelity, Constant Voltage Type with Automatic Volume Compensation

Audio Power Output:
To Phonograph Speakers (adjustable).....
.....1 to 20 watts
To Remote Speakers.....24 watts max.
Maximum total to Phonograph Speakers & Remote Speakers.....25 watts

Electrical Selector.....Type ES11-L6

Wired Selection Receiver.....Type WSR7-L6 (used on 100J)
.....Type WSR7-L6D (used on 100J-D)

Remote Control:
Seeburg, 3-wire "Wall-O-Matic
Nominal operating voltage.....25
Power Source.....Selection Receiver or Auxiliary Power Supply Type PS6-1Z
Maximum number of Wall-O-Matics Powered by Selection Receiver.....6
Maximum number of Wall-O-Matics powered by each added auxiliary power supply.....6

Remote Speakers:.....High Fidelity Types

HFCV1-12	12" Recessed Type
HFCV2-8	8" Wall Cabinet
HFCV3-8	8" Corner Cabinet

Tubes:	Fuses:
1 - 5879	1 - 5 Amp. 3 AG
1 - 6SN7GTB	1 - 3 Amp. 3 AG
1 - 6SK7/6SK7GT	1 - 2 Amp. 3 AG
1 - 6SL7GT	1 - 1 Amp. 3 AG
1 - 12AX7	1 - 3 Amp. Fustat
2 - 6L6G/6L6	
1 - 5U4GB	
1 - 2050	

DIMENSIONS:

Height	58¾ Inches
Width	35½ Inches
Depth	26¾ Inches
Net Weight	337 Pounds
Shipping Weight	419 Pounds
Record Weight, 50 Records, approx.	3 Pounds

SELECT-O-MATIC "100"

Models 100J & 100JL

The Select-O-Matic "100" Models 100J and 100JL differ from the Model HF100R in cabinet design, amplifier and color of some of the visible mechanism parts. The service information for the HF100R applies to the 100J and 100JL and is indexed below.

The Type HFMA1-L6J amplifier in the Model 100J and 100JL and the Type MRA5-L6 amplifier in the Model HF100R have the same tube complement and will employ the same approach and techniques in servicing but some of the component parts of the two amplifiers differ. The data, parts list and diagram for the Type HFMA1-L6J appear on pages 4057 to 4060. Mechanism information and parts reference are on pages 2303 and 2304.

- INDEX -

ADJUSTMENTS:

- Mechanism 2303
- Electrical Selector ..... 3075 to 3082
- Coin Switches 1222
- Slug Rejector 1221
- Selection Receiver ..... 5099 to 5102

ASSEMBLY DATA & MECHANISM ..... 2175 to 2178

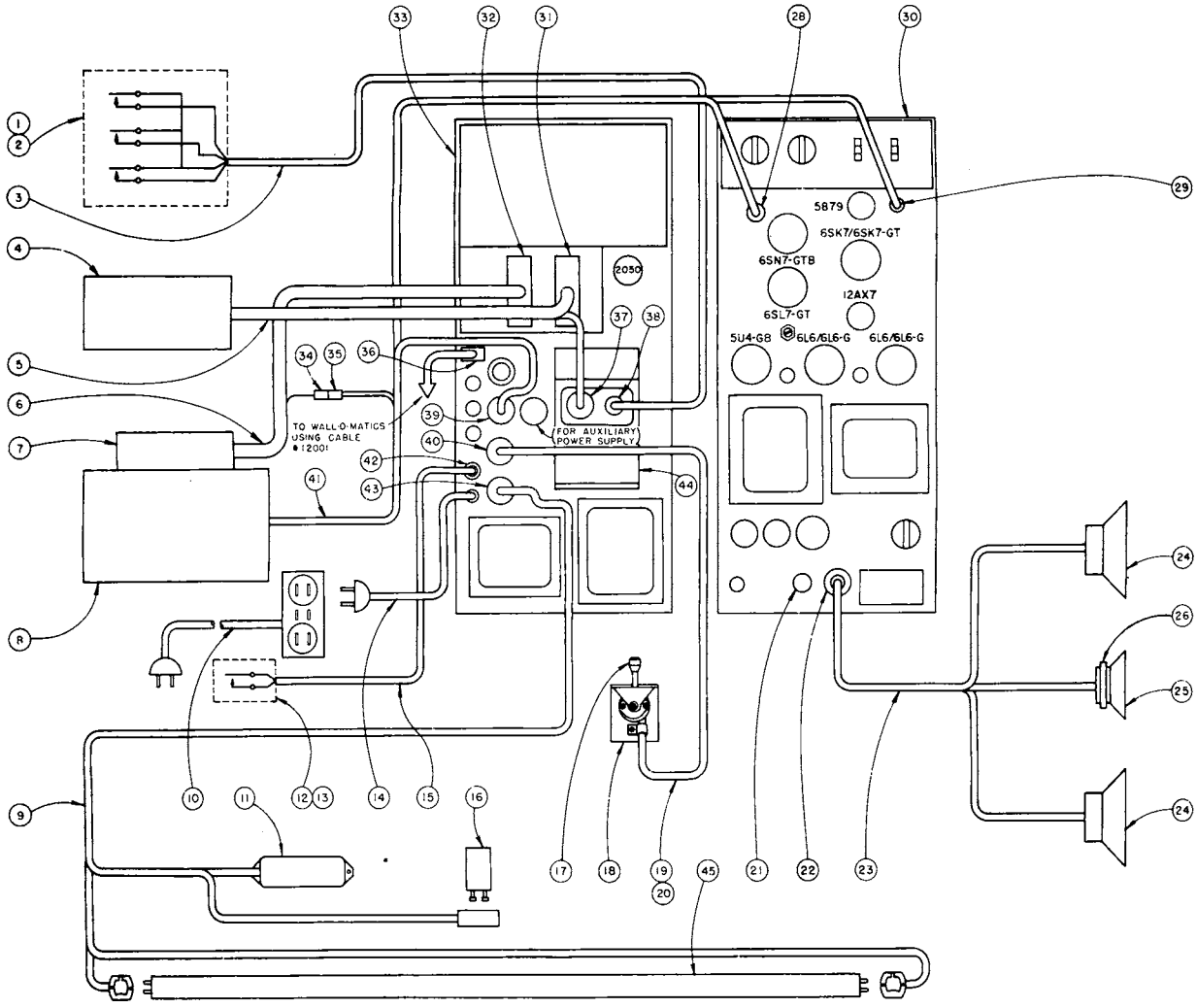
DIAGRAMS:

- Amplifier 4059
- Cabinet Cabling 1240
- Electrical Selector 3083
- Mechanism 2280
- Power Distribution 1225
- Selection Receiver 5103
- Service Switch 1225

LUBRICATION CHART 2279

PARTS LISTS:

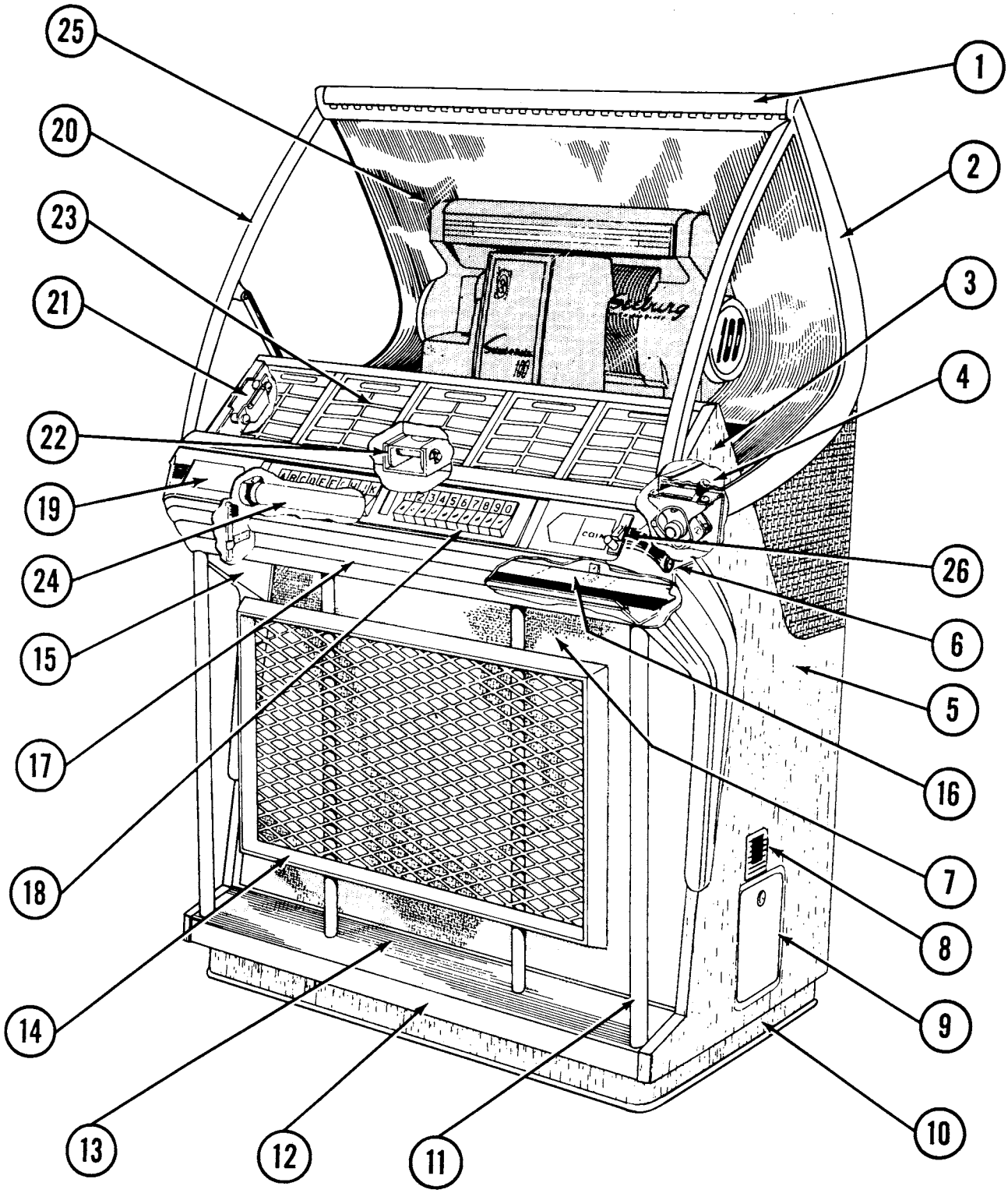
- Amplifier 4060
- Cabinet ..... 1235 and 1241 to 1244
- Electrical Selector 3085
- Mechanism 2304
- Selection Receiver ..... 5104 to 5108



Cabinet Cabling Diagram

PARTS LIST

Item	Part No.	Part Name
1	401766	COIN SWITCH & CABLE ASSEMBLY
2	401749	COIN SWITCH
3	401761	CABLE & PLUG ASSEMBLY
4	410400	ELECTRICAL SELECTOR (ES11-L6)
5	410465	E.S. CABLE & PLUG ASSEMBLY
6	304437	SELECTOR CABLE & PLUG ASSEMBLY
7	304456(100J)	SELECTOR ASSEMBLY (100SA10-L6)
	304458(100JL)	SELECTOR ASSEMBLY (100SA11-L6)
8	246307(100J)	SELECT-O-MATIC MECHANISM(145S16-L6)
	246312(100JL)	MECHANISM (145S18-L6)
9	407338	PROGRAM LIGHT CABLE ASSEMBLY
10	402152	LINE CORD & OUTLET ASSEMBLY
11	407365	BALLAST 25 W FLUORESCENT LAMP
12	405654	RECORD REJECT SWITCH & CABLE ASSEMBLY
13	402065	RECORD REJECT SWITCH
14	303334	LINE CORD ASSEMBLY
15	405742	RECORD REJECT SWITCH CABLE & PLUG ASSEMBLY
16	405138	STARTER (FLUORESCENT LIGHT) 25W
17	407239	KNOB
18	407244	SERVICE SWITCH
19	407195	SERVICE SWITCH CABLE, PLUG & BRACKET
20	407198	SERVICE SWITCH CABLE & PLUG ASSEMBLY
21	305316	9-PRONG DUMMY PLUG
22	F-3150	4-PRONG PLUG
23	407540	SPEAKER CABLE ASSEMBLY
24	408315	12" SPEAKER
25	408303	8" SPEAKER
26	86215	CONDENSER
28	A250938	3-PRONG PLUG (MUTE)
29	246957	SINGLE PRONG PLUG
30	305270	MASTER REMOTE AMPLIFIER (HFMA1-L6J)
31	400844	27 CONTACT FEMALE PLUG
32	F-9461	27-PRONG PLUG
33	303317	WIRED SELECTION RECEIVER (WSR7-L6D) - USED ON 100J-D
	303320	WIRED SELECTION RECEIVER (WSR7-L6) - USED ON 100J
34	250706	CONNECTOR (MALE)
35	250707	CONNECTOR (FEMALE)
36	12015	3 CONTACT PLUG
37	12028	OCTAL PLUG
38	401521	4-PRONG PLUG (SMALL
39	250942	11-PRONG PLUG
40	200241	5-PRONG PLUG
41	246950	CONTROL CABLE & PLUG ASSEM.
42	402066	2-PRONG PLUG
43	10895	2-PRONG PLUG
44	400649	*CREDIT & CANCEL UNIT (CCU3-L6D)*
45	405136	25 W. FLUORESCENT LAMP

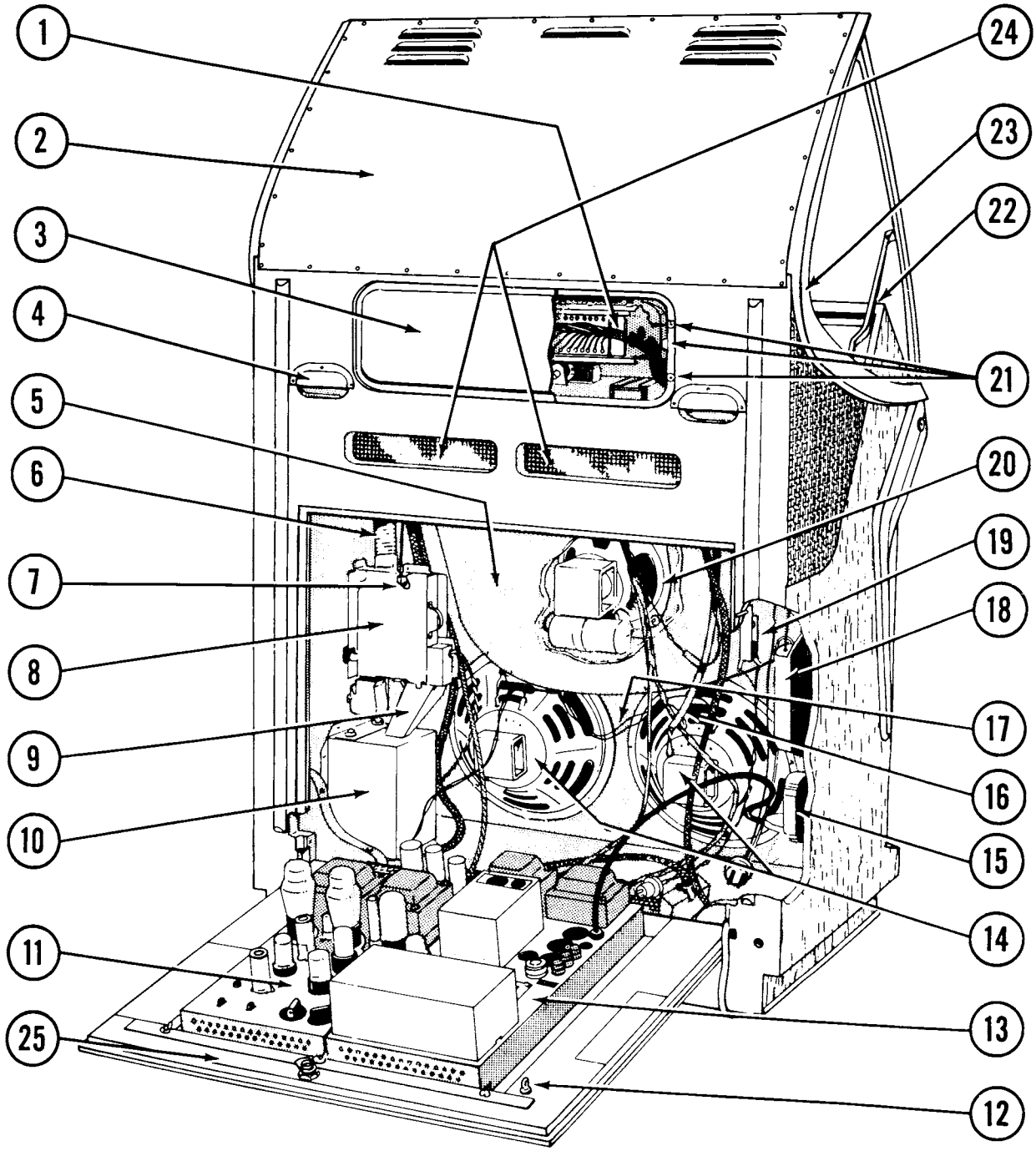


PARTS LIST on Reverse Side

Figure 1. Front View – Cabinet Assembly

PARTS LIST

Item	Part No.	Part Name
1	407013	Top Rail
2	407011	Upper Side Casting, R. H.
	407012	Upper Side Casting, L. H.
	971425	No. 10 x 5/8 Phillips R. H. W. Screw
	914668	8/32 x ¾ Phillips R. H. M. Screw
	407051	Side Glass
	407543	Side Glass Clamp, R. H.
	407544	Side Glass Clamp, L. H.
	53403	¼" x 1/8 Adhesive Sponge Rubber
3	407652	Program Frame Support Decal Assembly, R.H.
	407653	Program Frame Support Decal Assembly, L.H.
	407656	Decal Blank, R. H.
	407657	Decal Blank, L. H.
4	407195	Service Switch Assembly
	407244	Service Switch Only
5	407530	Cabinet Only
		Decal
		Decal
6	407156	Lid Lock Assembly, R. H.
	407157	Lid Lock Assembly, L. H.
	407065	Lid Lock Assembly
	406043	Bolt Pivot Bar
	915380	10/32 x ¼ Phillips R.H.M.Screw
	921242	Flat Washer (Steel- Cad)
	925520	Lock Washer
7	407674	Grille Scrim Cloth
	407568	Grille Screen
	407574	Grille Filler Side
	407573	Grille Filler Bottom
8	407557	Slug Receptacle Assembly
9	407617	Cash Box Door Frame
	407555	Cash Door Assembly
	407556	Cash Door Only
	406340	Cash Door Lock Assembly
10	407570	Base Trim
	407569	Base Cover
	970660	No. 6 x ½ Phillips Flat H.W.Screw
11	407618	Corner Tube Assembly, R. H.
	407623	Tube Bracket, R. H.
	407635	Tube Plug, R. H. or L. H.
	407619	Corner Tube Assembly, L. H.
	407620	Tube Only - 1" Dia. R.H. or L.H.
	407624	Tube Bracket, L. H.
12	407572	Kick Plate
	970660	No. 6 x ½ Phillips Flat H.W.S. (Steel- Cad)
13	407571	Grille Trim Lower
14	407577	Grille Ornament Assembly
	407578	Grille Frame Assembly
	407632	Grille Frame Tube Assembly
	407633	Grille Tubes Only
	407634	Tube Plugs
15	407541	Side Cover Plate, R. H.
	407542	Side Cover Plate, L. H.
	407025	Shelf Support Casting, R. H.
	407026	Shelf Support Casting, L. H.
16	407641	Grille Shelf Assembly
	407642	Grille Shelf Only
	407151	Shelf Bracket (Rear)
	407338	Program Light Cable Assembly
	407251	Cable Bushing (Black)
	407334	Cable Bushing
	405220	Brush Holder
	405219	Brush
17	407144	Cabinet Casting Assembly
	407145	Cabinet Casting Sub- Assembly
	407184	Cabinet Corner Casting Assembly, R. H.
	407185	Cabinet Corner Casting Assembly, L. H.
	407014	Cabinet Center Casting
	406034	Latch Bracket Assembly, L. H.
	406035	Latch Bracket Assembly, R. H.
18	410210	Selector Key Panel
19	406180	Instruction Window
	407444	Coin Window (Used on 100J-D)
	407130	Coin Window (Used on 100J)
	406160	Window Retainer
	903150	Speed Nut
20	407659	Cabinet Lid Assembly
	407660	Cabinet Lid Glass
	407042	Cabinet Lid Frame (Top)
	407044	Cabinet Lid Frame (Side)
	407043	Cabinet Lid Frame (Bottom)
	407046	Lid Catch, R. H.
	407047	Lid Catch, L. H.
	407048	Lid Support Bracket Assembly
	407050	Lid Hinge
	914602	8/32 x 5/8 Phillips Flat H.M.S.
	914271	8/32 x 5/16 Phillips Flat H.M.S.
	960726	6/32 x 5/16 Phillips Flat H.Self Tapping Screw
	913192	6/32 x 5/8 Phillips Flat H. M. Screw
	407045	Glass Retainer
	960711	6/32 x ¼ Phillips Truss Hd. Self Tapping Screw
21	407169	Magnet
22	407643	Chassis Mounting Channel
	407098	Light Diffuser Glass
23	407626	Program Holder & Frame Assembly
	407627	Program Frame Assembly
	406300	Program Glass (A & B)
	406301	Program Glass (C & D)
	406302	Program Glass (E & F)
	406303	Program Glass (G & H)
	406304	Program Glass (J & K)
	406051	Program Holder Assembly (A & B)
	407389	Program Holder Only
	407388	Program Holder Spring
	404675	Retainer Washer
	406052	Program Holder Assembly (C & D)
	406053	Program Holder Assembly (E & F)
	406054	Program Holder Assembly (G & H)
	406055	Program Holder Assembly (J & K)
	407600	Classification Heading (Hit Tunes) — SOLD IN SETS ONLY
	407685	Classification Heading (Rhythm & Blues) — SOLD IN SETS ONLY
	407686	Classification Heading (Folk & Western) — SOLD IN SETS ONLY
	407687	Classification Heading (Classic & Varieties) — SOLD IN SETS ONLY
24	405136	Fluorescent Light (25 Watt)
	405138	Fluorescent Light Starter
25	407649	Interior Trim (Upper)
	407650	Interior Trim, R. H.
	407651	Interior Trim, L. H.
	407665	Trim Retainer
	407547	Trim Support, L. H.
	407545	Trim Support, R. H. Upper
	407648	Trim Support Angle
	407546	Trim Support, R. H. Lower
	407666	Trim Clamp
	407174	Trim Cap
	407175	Trim Cap
	407176	Trim Cap
	981036	3/16 x 7/32 Plasti Rivet (Nylon- Clear)
26	401817	Scavenger Wire & Plunger Assembly
	406032	Coin Slot



PARTS LIST on Reverse Side

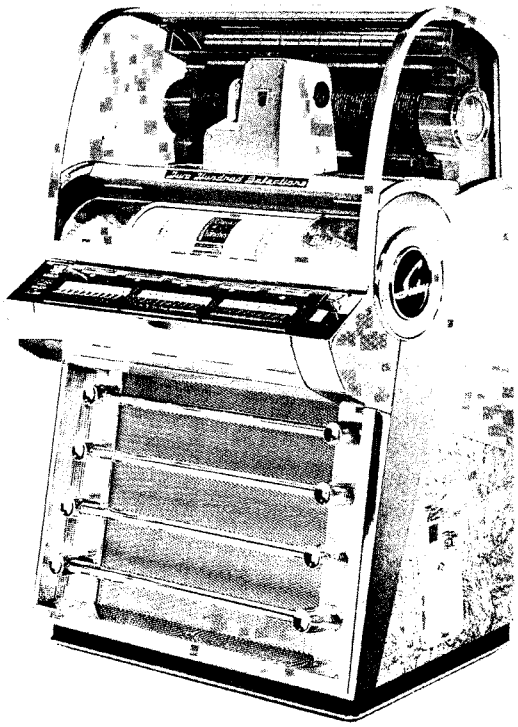
Figure 2. Rear View – Cabinet Assembly

PARTS LIST

Item	Part No.	Part Name
1	304456	100SA10- L6 Selector Assembly
	304433	Contact Block Assembly
2	407562	Back Panel Welded Assembly
	960752	6/32 x 3/8 Phillips P. H. S. T. Screw
	971425	No. 10 x 5/8 Phillips R.H.W. Screw
	914668	No. 8/32 x 3/4 Phillips R.H.W. Screw
3	407559	Access Panel Riveted Assembly
4	407558	Cabinet Handle
5	407631	Speaker Compartment Cover
6	401625	Coin Chute
7	401817	Scavenger Wire & Plunger Assembly
	401819	Scavenger Wire Housing
	401223	Plunger Return Spring
8	401802	Coin Mechanism Complete 10¢ (Used on 100J- D)
	401801	Coin Mechanism Complete 10¢ (Used on 100J)
	401828	Slug Rejector Mounting Frame Assembly 10¢
	401806	Slug Rejector Mounting Frame Assembly 5¢
	401800	Coin Mechanism Complete 5¢
	401822	Coin Switch & Cable Assembly 5¢
	401766	Coin Switch & Cable Assembly 10¢
	401820	Coin Switch Assembly 5¢
	401749	Coin Switch Assembly 10¢
	401521	4 Prong Plug
9	401831	Lower Coin Chute Welded Assembly 10¢
	401811	Lower Coin Chute Welded Assembly 5¢
10	407193	Cash Box Assembly
	405745	Cash Box Lock Plate
	404659	Cash Bag
11	305270	HFMA1- L6J Master Remote Amplifier
12	404320	Tee- Nut
	404321	Eye- Bolt
13	303320	WSR7- L6 Selection Receiver (Used on 100J)
	303317	WSR7- L6D Selection Receiver (Used on 100J- D)
14	408315	Speaker 12" Jensen
	408317	Speaker 12" Utah
15	402152	Line Cord & Outlet Assembly
16	404672	Chain Assembly
	404673	Snap
	407338	Program Light Cable Assembly
17	407540	Speaker Cable Assembly
18	407365	Fluorescent Lamp Ballast (25 Watt- 60 Cycle)
19	405654	Record Reject Switch Assembly
	402065	Record Reject Switch Only
	405742	Record Reject Switch Cable Only
	402064	Record Reject Pin
20	408303	Speaker 8" Jensen
21	407106	Panel Latch Assembly
	407192	Bullet Catches
22	407066	Lid Support
23	407011	Upper Side Casting, R. H.
	407012	Upper Side Casting, L. H.
24	407255	Vent Screen
25	407664	Lower Rear Door Cover Plate

Seeburg SELECT-O-MATIC HIGH FIDELITY 200

MODEL V-200 – VL200



The Select-O-Matic "200", Model V-200 and Model VL-200 are coin-operated phonographs having a dual selection pricing system and using the Seeburg Select-O-Matic Mechanism for selective playing of either or both sides of one hundred 45 r.p.m., 7-inch records. The Model V-200 and Model VL-200 differ in cabinet finish and trim, the color of some of the exposed mechanism parts, the type of selection receiver and dual credit unit. The letter N or D following the model number designates the selection pricing specification. Choice of any of the two hundred record sides to be played is made at the instrument with an Electrical Selector or by remote control with 200-selection, 3-wire Wall-O-Matics. The Memory Unit of the Seeburg Tormat Memory System is a part of the mechanism. It "remembers" the selections and controls the mechanism accordingly.

The titles for the entire two hundred record sides are displayed on standard size dual title strips. The strips are arranged in a cylindrical program holder that exposes them to view as five back-lighted panels of forty selections each. The program holder is motor driven and controlled by five selector switches. Each switch and program panel is associated with a musical classification ('Hit Tunes", ''Rhythm and Blues", etc.) so, when a switch is pressed, the program panel is brought into view that shows the titles for the type of music desired.

Coins are deposited in a single entry coin chute. They pass through a 5-, 10-, 25-cent slug rejector and the coin switches to a canvas bag which has a capacity of approximately one-hundred fifty dollars. Each nickel, dime and quarter adds, respectively, one, two and six credit "units" in an add-and-subtract credit switch that has capacity for twenty-four credits and is part of the dual selection system. Selection pricing panels in the Electrical Selector and the "200" Wall-O-Matics permit pricing of tunes so that either of two values of credits are cancelled when a record is selected. Two credits (10 cents) or three credits (15 cents) are subtracted from the credits totaled in the system credit switch when a Type DCU1-L6 (V200-D) or a Type DCU1L-L6 (VL-200-D) Dual Credit Unit is used. One credit (5 cents) or two credits (10 cents) are subtracted when a Type DCU5-L6 (V-200-N) or Type DCU5L-L6 (VL-200-N) Dual Credit Unit is used. Glass information panels at the side of the coin entry are lighted to indicate when additional coins are needed for selection or when there is enough accumulated credit for a 10-cent (or 15-cent) selection.

The lid glass through which the mechanism and the record program are viewed is hinged and opens for changing records and title strips. With the lid open, access may be had to a Service Switch, a Manual Credit Switch, Popularity Meter and two Selection Counters. The Service and Credit Switches are for control of the mechanism when servicing the instrument.

The Popularity Meter is part of the mechanism and indicates the number of times (up to 40) each record has been played. The Selection Counters are part of the Dual Credit System and total, separately, the number of selections made at the 10-cent and the 15-cent rate (or 5-cent and 10-cent rate). The counter totals include selections made through the remote control Wall-O-Matics as well as those made at the instrument.

A Seeburg Magnetic Pickup with one-fifth ounce stylus pressure assures long record life and high quality reproduction unaffected by temperature or humidity conditions. A 25-watt High Fidelity Amplifier connects to four permanent magnet type speakers. Two of these are 12-inch low frequency speakers; two 8-inch high and middle range speakers. A terminal strip is provided for connection of Constant Voltage High Fidelity Type Remote Speakers. The amplifier incorporates an automatic volume compensator to provide uniform volume level and avoid "blasting" due to "loud" records. A three-position switch enables adjustment of sound system response to minimize record surface noise and distortion. A single volume control is used to adjust the volume of sound from the phonograph speaker and the remote speakers. Provision has been made for plug-in connection of a remote volume control that may be up to a hundred feet from the Select-O-Matic without introducing hum or causing distortion.

A Selection Receiver supplies power for remote control Wall-O-Matics and incorporates the switches and relays for operation from remote points as well as from the Electrical Selector. It is equipped with convenient sockets for plug-in connections of the mechanism, cabinet lighting, amplifier, and control circuits.

The Selection Receiver and the Amplifier are mounted in a vertical position on the inside of the cabinet rear door. The door may be opened for access to the tubes and fuses or it may be fully removed. The units are fastened over an opening which is covered by a plate. The plate, which is held in place with wing nuts, may be removed to expose the tube socket and plug connections and the interior wiring of the units for test during normal operation.

A selection cancel switch, effective only when a record is playing, is operated by a small, inconspicuous button on the back near the left side of the cabinet. A remote cancel switch or button may be substituted by plug-in connection to the selection receiver.

SPECIFICATIONS

Power Requirements:

117 volts A.C., 60 cycles
Standby (without Wall-O-Matics) - 147 watts
Operating (without Wall-O-Matics) - 325 watts

Cabinet Lighting:

Upper Cabinet Lamp – 25-watt, 33-inch, Daylight Fluorescent (FS25 starter.)
Lower Cabinet Lamp – (Same as above.)
Program Selector Drum Lamp – 20-watt, 24-inch Daylight Fluorescent (FS25 starter.)

Cabinet Key Number F-314

Mechanism: .....Type 245ST1-L6 (V-200)
Type 245ST3-L6 (VL-200)

Tormat Memory Assembly.....Type 200TM1-L6

Record Capacity.....100 records (200 Selections)

Record Type.....45 rpm
7-inch diameter, 1.5-inch center hole

Pickup.....Seeburg High Fidelity Magnetic

Phonograph Speakers:

2-12" permanent magnet (low frequency)
2- 8" permanent magnet (high frequency)

Cross Over Network Type.....CN600-1

Finish..Gray Olive Burl Plastic Veneer & Rose Maroon Lacquer *(V-200)*
Gray Teakwood Plastic Veneer & Coral Lacquer (VL-200)

Credit System:

Coin Equipment.....5-, 10-, 25-cent Single Entry Slug Rejector
Dual Credit Unit.... Type DCU1-L6 or DCU5-L6 (V-200)
Type DCU1L-L6 or DCU5L-L6 (VL-200)

Amplifier.....Type HFMA1-L6

8-tube, High Fidelity, Constant Voltage Type with Automatic Volume Compensation

Audio Power Output:

To Phonograph Speakers (adjustable)..... ..... 1 to 20 watts
To Remote Speakers..... 24 watts max.
Maximum total to Phonograph Speakers & Remote Speakers .....25 watts

Tormat Electrical Selector.....Type TES1-L6

Tormat Selection Receiver. Type TSR1-L6 (V-200)
Type TSR3-L6 (VL-200)

Remote Control:

Seeburg, 3-wire "Wall-O-Matic"
Nominal operating voltage.....25
Power Source...Tormat Selection Receiver or Auxiliary Power Supply Type PS6-1Z
Maximum number of Wall-O-Matics powered by Tormat Selection Receiver..... 6
Maximum number of Wall-O-Matics powered by each added auxiliary power supply.....6

Remote Speakers: ..... High Fidelity Types

HFCV1-12	12" Recessed Type
HFCV2-8	8" Wall Cabinet
HFCV3-8	8" Corner Cabinet

Tubes:

1 - 5879	1 - 6SN7GTB
1 - 6SK7/6SK7GT	1 - 6SL7-GT
2 - 12AX7	2 - 6L6G/6L6
1 - 5U4G-GB	1 - 6X4
4 - 2D21 (V-200 only)	1 - OA2 (V-200)
2 - OA2 (VL-200)	2 - 2050 (VL-200)

Fuses:

1 - 5 Amp. 3 AG — 1 - 5 Amp. Pig-Tail Fuse. Type 6JV
1 - 2 Amp. 3 AG
1 - 3 Amp. Fustat (V-200)
1 - 3.2 Amp. Fusetron Type N 3-2/10 (VL-200)

DIMENSIONS:

Height.....58½ Inches
Width.....36½ Inches
Depth.....27½ Inches
Net Weight.....416 Pounds
Shipping Weight.....498 Pounds

Record Weight,
100 Records, approx. ..... 6 Pounds

INSTALLATION AND OPERATION

DAMAGE CAUSED BY SHIPPING

Examine the instrument immediately after unpacking. If any damage is found, notify the transportation representative and get his signature on the transportation bill with notation of damage.

CABINET LID SUPPORT

The cabinet lid support rod is normally concealed in the phonograph cabinet and is withdrawn and coupled to the lid by means of a positive Safety Catch. MAKE CERTAIN THAT SAFETY CATCH IS ENGAGED. A notch in the support rod hooks into and locks in a latch plate when the weight of the raised lid bears on it.

To lower the lid, support it with the right hand *(Figure 2)*, disengage the support rod by pressing the safety catch push-button with the left hand and uncouple the rod. Unhook the support rod from the latch plate by lifting and pressing toward the back of the cabinet. DO NOT ATTEMPT TO MOVE CABINET WITH LID UP.

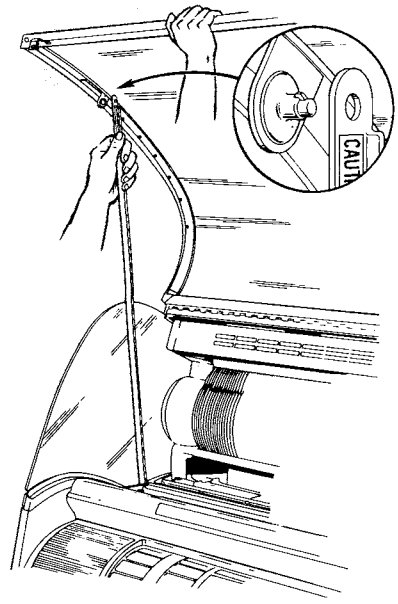


Figure 2.

UNBLOCKING

Before placing this phonograph into operation it is necessary to remove or loosen certain shipping hardware used to safeguard the mechanism during transit. Carefully follow instructions on the tags found in several places in the instrument and remove blocks and shipping supports accordingly. *CAUTION: Do not attempt mechanism operation by manually turning the flywheel; this may damage the mechanism. Use the service switches!*

DO NOT PUT PACKING BLOCKS, INSTRUCTION CARDS, OR ANY OTHER MATERIAL ON THE AIR INTAKE SCREEN IN THE FLOOR OF THE CABINET, AS THIS WILL OBSTRUCT VENTILATION AND CAUSE OVERHEATING. SUCH OVERHEATING MAY WARP RECORDS AND SHORTEN THE LIFE OF THE EQUIPMENT.

ELECTRONIC EQUIPMENT

The electronic equipment is mounted on the rear door. The door is hinged and can be swung out to permit access to coin equipment and to tubes, tone controls, plugs, etc., on the front of the electronic equipment. The cover plate on the rear of the electronic equipment can be removed by unscrewing three thumb nuts and loosening the screw at the lower center of the plate. *(NOTE: It is not necessary to remove this screw.)* The electronic equipment may be completely serviced while the phonograph is operating without removing it from the cabinet. Normally the opening of the lower rear door is limited by a chain. The chain can be unhooked and, the door can be swung open until it rests on the floor. The entire door can also be removed by removing all plugs and unhooking the chain, then lifting the assembly up and out toward the rear.

TUBES AND PLUGS

This instrument is shipped with tubes and plugs installed. In shipment they may loosen; for this reason, it is well to see that they are all firmly seated in the sockets before inserting the line cord.

VOLTAGE RATING

Before connecting the line cord to a light socket or outlet make certain that the voltage and frequency on the meter box at the location agree with the markings of voltage and frequency on the instrument name plate.

PLACING THE SELECT-O-MATIC "200"

To obtain best performance and long service from this equipment, it should be placed on a firm, reasonably level floor away from excessive moisture and heat.

WARNING: To prevent warping records place phonograph where the records will not at any time be exposed to direct sunlight or any other radiant heat. Do not reduce ventilation by obstructing the vent screens.

A space of at least two inches must be allowed between the back of the cabinet and the wall, so as to assure adequate ventilation.

SERVICE SWITCH OPERATION

A three-position service switch is located as shown in *Figure 3*. When the switch lever is in the center position, the power is off, and the mechanism will not operate even though selections are "set-up" on the Tormat Memory Unit.

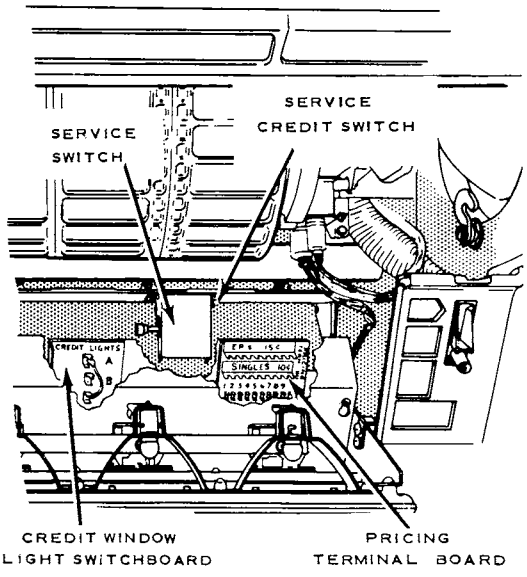


Figure 3.

When the switch lever is moved towards the front of the cabinet, against the spring return, it causes the mechanism to scan. In this position it will scan past and by-pass selections set up on the Tormat Memory Unit.

The Service Switch must be set towards the back of the cabinet for Normal Operation.

SERVICE CREDIT SWITCH

At the right side of the service switch box is a push-button which operates the service credit switch. With the service switch in the "OFF" position a 5¢ credit is obtained each time the service credit switch is depressed. CAUTION: RETURN SERVICE SWITCH TO THE NORMAL POSITION.

LOADING RECORDS

To obtain optimum performance and supply your customer with the best in recorded music it is necessary that only new or nearly new records be used on the HIGH FIDELITY Model V-200 Select-O-Matic. Only standard 7-inch commercial 45 rpm record may be used. Occasionally, records will be found that have an undersize center hole. This is caused, in some cases, by the paper label being pushed into the center hole. If the record center hole is undersize, such a defective record may stick on the record pin.

Push up the main switch (accessible through hole in rear door) to the "ON" position. Set the service switch to the center position; this keeps the carriage from operating even though credits are established on the Tormat Memory Unit. (See "Service Switch Operation"). Hold the service switch in the scan position until the carriage is near the right hand end of base and release it.

Starting at the left end of the magazine (A1, B1), insert one record in each record space. The top row selections on the Indicator Panel refer to the left side of the records and the bottom row to the right side of the records. Thus A1, C1, E1, G1, J1, L1, etc., all will be left sides, and B1, D1, F1, H1, K1, M1, etc., will be right sides of records. CAUTION: DO NOT FORCE RECORDS INTO RECORD SPACES! Any normal record will roll very freely into the record spaces. A record which is warped badly enough to have any tendency to bind in the magazine space would not be properly played in any automatic mechanism and should not be used.

When the left half of the magazine has been loaded with records, scan the carriage to the left end of the base and load the right half of the magazine. *(After the magazine has been loaded, set the service switch to the "ON" position to the rear of the cabinet).*

"SET-UP" AND OPERATION OF DUAL CREDIT SYSTEM

The Select-O-Matic "200" incorporates a

Dual Credit System which permits the accumulation of credits at the rate of one credit for a nickel, two credits for two nickels or a dime, and three credits for 15 cents. Additional credits can be accumulated up to a maximum of 24 in each programming cycle. Note that a premium is given when quarters are used, since one quarter gives six credits and four quarters will give 24, while it takes 12 dimes or 24 nickels to give 24 credits. Associated Credit Lights, a Credit Window Light Switchboard, and Pricing Terminal Boards (one on the Tormat Electrical Selector and one on the Tormat Selection Receiver stepper unit) are effective in setting up the credit system

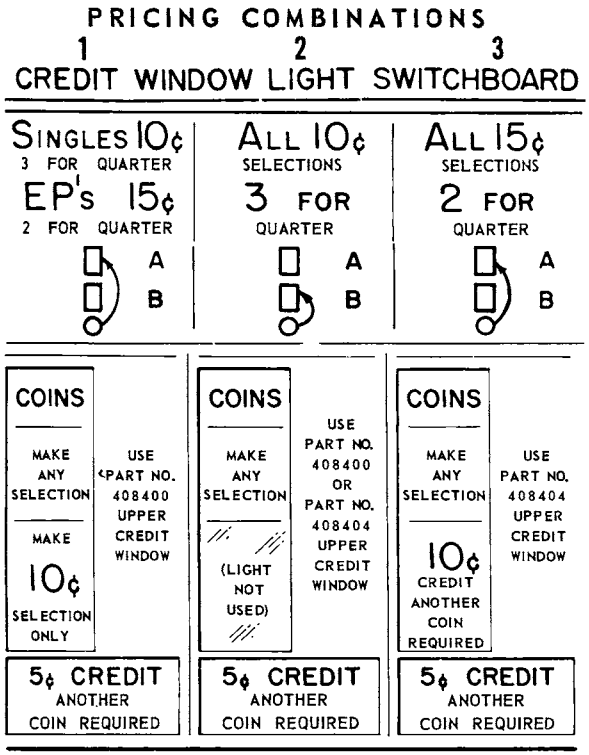


Figure 4.

Figure 4 constitutes a chart condensing information regarding the capabilities and set-up requirements for the three Pricing Combinations.

Preparation of the system necessitates:

A. Setting up of the Credit Window Light Switchboard for correct indication of credits.

B. Connecting the Pricing Terminal Board taper tabs corresponding to each panel of desired "EP's" and "SINGLES" for associated pricing. The program must be in panels of 20 selections (10) records, each panel being represented by a number button. "Singles" and "EP's" cannot be in the same panel if there is to be a price difference. The pricing terminal board on the Tormat Selection Receiver, the pricing terminal board on the Tormat Electrical Selector, and the pricing terminal boards in all Wall-O-Matics MUST be connected to match.

With the Credit Window Light Switchboard set to "A", as in pricing combination No. 1, and the Pricing Terminal Boards connected for "SINGLES" and "EP's", the following operational sequence holds true:

1. The deposit of a nickel rotates the credit wheel in the Dual Credit Unit to the one-credit position and the lower credit window light goes on indicating "5¢ Credit – Another Coin Required". No plays will result when selection buttons are pushed and keys will not latch.
2. Another nickel (or a dime initially) rotates the credit wheel to the two-credit position and the middle credit window light goes on indicating "Make 10¢ Selection Only". Now only "Singles" will play when selection buttons are pushed. If buttons for "EP" selection instead are depressed, they will be unlatched when the second of the two is pushed.
3. Another nickel (or a nickel and a dime initially) rotates the credit wheel to the three-credit position and the upper credit window light goes on indicating "Make Any Selection". Credit window lights remain the same as when on the three-credit position with the deposit of additional coins.

With the Credit Window Light Switchboard set on position "B" and the Pricing Terminal Board tabs all placed on "Singles" as in pricing combination No. 2, the following holds true:

1. The first nickel deposited rotates the credit wheel to the one-credit position and the lower credit window light goes on as before.
2. Another nickel (or a dime initially) rotates the credit wheel to the two-credit position and the upper credit window light goes on indicating "Make Any Selection". The middle credit light remains out at all times with the switchboard in "B" position.

With the Credit Window Light Switchboard set on position "A" and the Pricing Terminal Board tabs all placed on "EP's" as indicated in pricing combination No. 3, the following holds true:

1. The Dual Credit Unit operation is similar to that of the previous "A", however, no plays will result on the first two credit positions.
2. In the 2-credit position, the middle credit window lights up to indicate "10¢ Credit—Another Coin Required". This upper credit window, *Part No. 408404* is available from your Seeburg Distributor and is installed as shown in *Figure 5.*

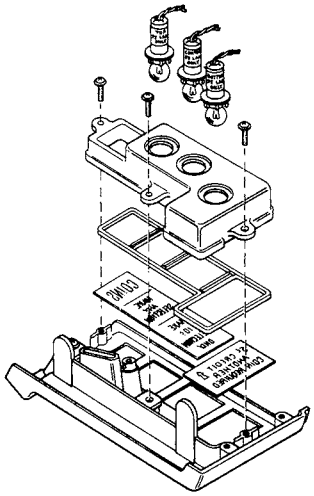


Figure 5.

PROGRAM DRUM

A complete set of blank title strips is supplied with the phonograph and can be found in the cash bag. Classification Headings are already installed in the program drum and Pricing Windows are to be applied as required to corellate with the pricing arrangement.

The following text and illustrations detail loading of the program drum:

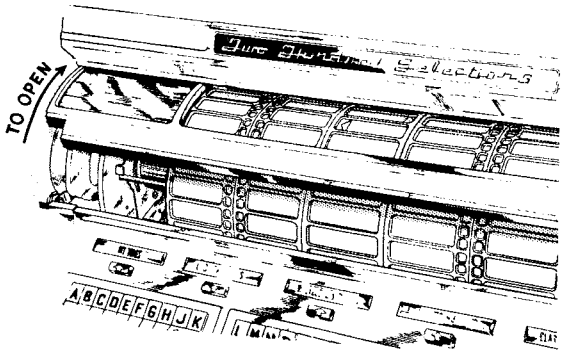


Figure 6.

1. Open the cabinet lid, setting the support, *Figure 2,* and lift the drum cover, *Figure 6.*
2. Unlock the Drum Lock Plate, *Figure 7,* and slide the drums apart as required for loading of appropriate title strips and pricing windows by sliding into place, *Figure 8.*

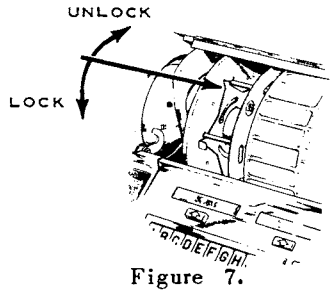


Figure 7.

3. Rotate the drum manually into the next position by grasping the spanner rods and turning the assembly. Load as required and continue this procedure to complete programming.

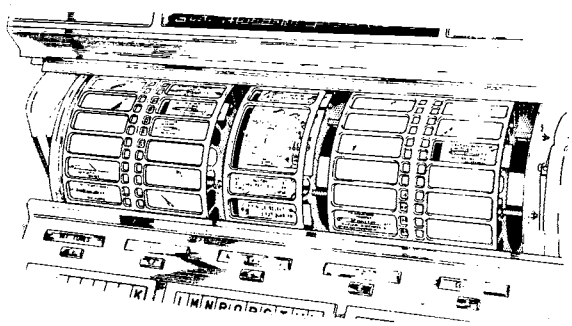


Figure 8.

Appropriate Pricing Windows for installation in the center section of the Program Drum required to satisfy a desired pricing combination must be chosen from the tabulated listing, *Figure 9.*

PRICING	PART NO.
SINGLE TUNE PER SELECTION SINGLE SELECTION 10¢ 3 FOR QUARTER	201222
10¢ SINGLE TUNE PER SELECTION SINGLE SELECTION 3 FOR QUARTER	201223
TWO TUNES PER SELECTION E P SELECTION 15¢ 2 FOR QUARTER	201224
15¢ TWO TUNES PER SELECTION E P SELECTION 2 FOR QUARTER	201225

Figure 9.

POPULARITY METER

A popularity meter is provided behind the "Record Now Playing" indicator at the top of the magazine. It is exposed to view by swinging the cover downward *Figure 10.* The popularity of each of the 100 records is indicated by 100 indicator wheels. Each wheel is calibrated from 0 to 40 and accurately shows the total number of plays (both sides) the corresponding record has had.

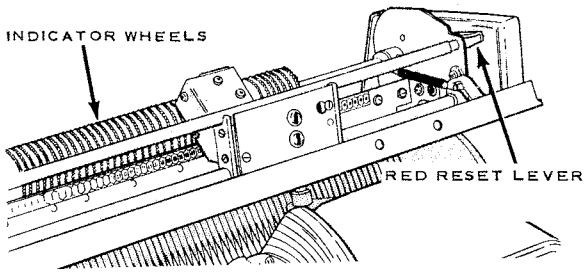


Figure 10.

POPULARITY METER RESET

The lever at the right hand end of the popularity meter partially resets the wheels each time it is pressed and released. It should be operated until all the wheels indicate zero.

SELECTION COUNTERS

Two selection counters, "SINGLES" and "EP's" respectively, are built into the left side of the Tormat Electrical Selector, *Figure 11.* They total SELECTIONS made from the phonograph and wall boxes. Although the selection counters are primarily intended to be used as their name implies, readings also afford a means for approximating the cumulative value of coins deposited.

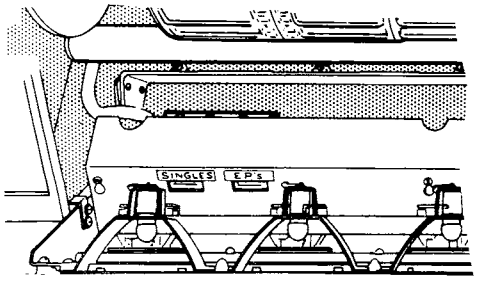


Figure 11.

The following example is based on the assumption that:

A. 50% of the total number of quarters deposited (60 in this hypothetical case) were for "SINGLES" and 50% for "EP's".

B. For "SINGLES", 3 plays for a quarter.

C. For "EP's", 2 plays for a quarter.

Referring to the SINGLES COUNTER:

1. From the present counter reading, subtract the last reading (the reading taken when the cash boxes were last emptied).
2. From this figure subtract ¼ of the total number of quarters (15 in this case) in all cash boxes (phonograph plus all connected Wall-O-Matics).
3. Multiply by .10 to obtain value in dollars.

EXAMPLE:

Present SINGLES counter reading...	11572
Last SINGLES counter reading	11119
Difference	453
Total No. of Quarters Divided By 4, i. e., 60/4	15
	438
	x .10
Approximate cash for "SINGLES"..	$43.80

Referring to the EP's COUNTER:

1. From the present counter reading, subtract the last reading.
2. From this figure subtract 1/6 of the total number of quarters (10 in this case).
3. Multiply by .15 to obtain value in dollars.

EXAMPLE:

Present EP's counter reading	9530
Last EP's counter reading	8376
Difference	154
Total No. of Quarters Divided By 6, i. e., 60/6	10
	144
	x .15
Approximate cash for "EP's"	$21.60
Total Approximate Cash for SINGLES and EP's	43.80 21.60 $65.40

NOTE: The counters may register slightly higher or lower than the actual number of selections, because of the multiple count during simultaneous operation of two or more wall boxes.

AUDIO SYSTEM

The Select-O-Matic Audio System is of the "constant voltage" type: the amplifier output voltage does not change when the speaker load is varied. This means that the volume from any speaker in the system will not change noticeably when other speakers in the system are added or removed. Independent adjustment of volume at each speaker is possible; connections and speaker cable runs are simplified; and, within limits, impedance matching problems are eliminated.

AMPLIFIER, TYPE HFMA1-L6

The amplifier unit is capable of delivering 25 watts of High Fidelity audio power, which can be divided in various proportions between the phonograph speakers and remote speakers. A terminal board is provided on the amplifier for connection of high fidelity C. V. remote speakers.

AMPLIFIER VOLUME CONTROL

The High Fidelity Master Amplifier is equipped with a keyed volume control which is accessible through a hole in the rear door. It is inoperative when a remote volume control is used.

TONE CONTROLS

For High Fidelity reproduction of recorded music, the original (live) balance between low frequencies (bass) and high frequencies (treble) must be maintained.

The acoustic (room) conditions in which a phonograph operates greatly affect the tonal balance. A room with plastered walls and ceiling, mirrors, and very little sound absorbing material, such as draperies, carpets, and upholstering, will sound shrill. By contrast, a room containing a large amount of sound absorbing material, such as acoustic tile on the ceiling and walls, draperies, carpets on the floor, and upholstered booths, absorbs high frequencies, and the room will sound "bassy". Such unbalance of bass and treble can be corrected by setting bass and treble controls during a simple listening test on location.

The table at the bottom of the page gives approximate settings to serve as a guide. To achieve best results, listen to several records and adjust bass, treble, and Range Controls to obtain a natural balance, consistent with record quality.

LOCATION CONDITIONS	CONDITION OF RECORDS		
	NEW (Good Quality)	FAIR (Average)	POOR (Worn and having High Scratch)
ACOUSTICALLY LIVE . . . . Hard walls, ceiling and floor - - little or no upholstery and draperies.	BASS 3-4 TREBLE 2 RANGE WIDE	BASS 3-4 TREBLE 2 RANGE MEDIUM	BASS 2-3 TREBLE 2 RANGE NARROW
AVERAGE ROOM . . . . Average amount of sound deadening material.	BASS 2-3 TREBLE 3 RANGE WIDE	BASS 2-3 TREBLE 3 RANGE MEDIUM	BASS 1-2 TREBLE 3 RANGE NARROW
ACOUSTICALLY DEAD . . . . Acoustic tile on ceiling and walls, heavy draperies and carpets, upholstered booths.	BASS 1-2 TREBLE 4 RANGE WIDE	BASS 1-2 TREBLE 4 RANGE MEDIUM	BASS 1 TREBLE 4 RANGE NARROW

Note 1: **Room Size:** In rooms smaller than average, reduce the treble control by one number. In rooms larger than average, the Treble may be increased by one number if no remote speakers are used.

Noise: The noise encountered in some locations (restaurants, etc.) has a masking effect on music, especially high frequencies. Final setting of tone controls should be made under normal noise conditions with a representative number of people present.

Automatic Vol. Comp. A.V.C., when ON, compensates for average loudness variations from record to record.

NOTE: GOOD QUALITY REPRODUCTION CANNOT BE OBTAINED WITH POOR QUALITY *RECORDS OR WITH WORN STYLUSES*. PLEASE REMEMBER – WORN STYLUSES WILL RUIN YOUR RECORDS.

AUTOMATIC VOLUME COMPENSATOR

An automatic volume compensator is incorporated in the amplifier. It compensates for the variations in the average volume levels of different records and makes possible a volume control setting for normal records without danger of blasting or high volume due to exceptionally "loud" records. Use of the feature is optional and is controlled by the AVC switch on the amplifier.

Operation of the compensator may be checked by removing the muting circuit plug from the amplifier while records are playing. Normal operation is indicated if, when the plug is taken out, the sound from a low volume record will fade almost completely away; that from a record of average volume will decrease in loudness. Little effect will be noted if a "loud" record is being played when the plug is pulled out. The change in volume, if any, will take place slowly, not suddenly when the muting plug is pulled out and replaced. Approximately six to eight seconds will be required to restore the volume to the original level after the plug is replaced.

NOISE SUPPRESSION

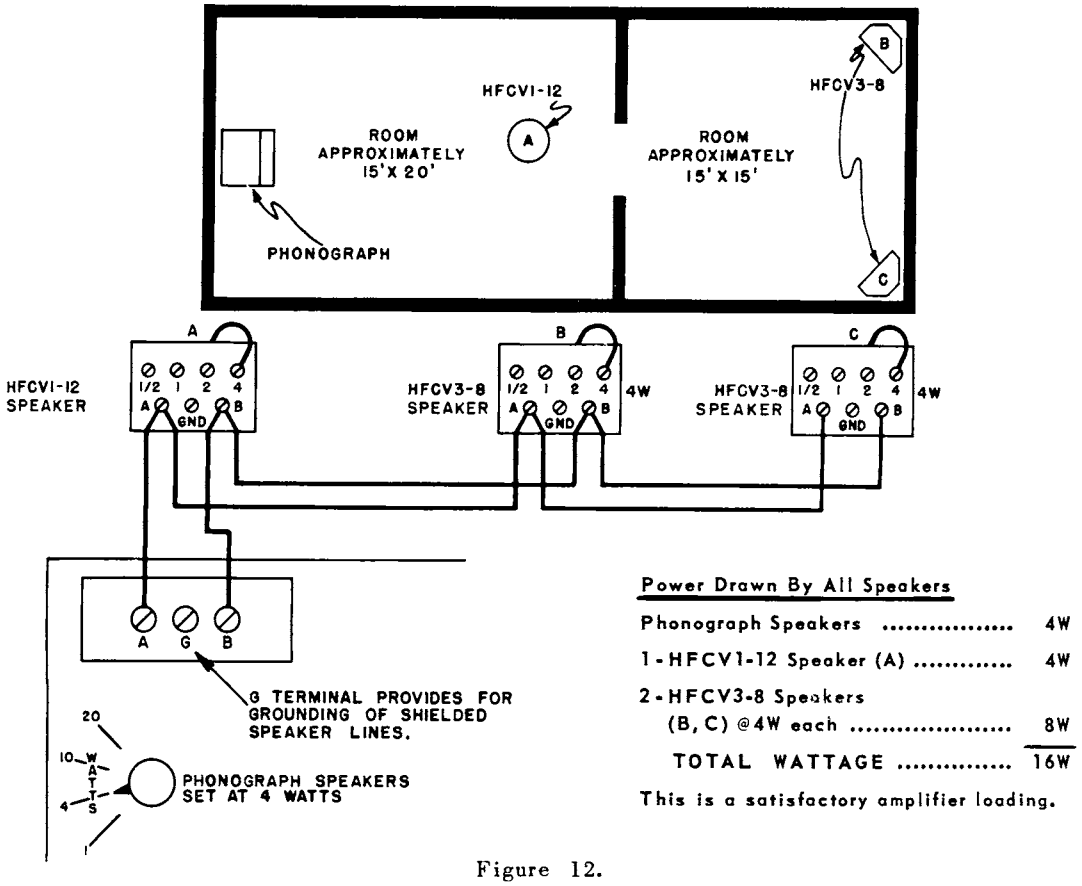
A three position Noise Suppression switch controls the frequency range of the amplifier. The Noise Suppressor is a "Low-Pass Filter" which can be adjusted to minimize high frequency distortion and noise found on some records without affecting the "middle register" music. The switch should be set to the position that provides the most satisfactory reproduction consistent with conditions of records to be played.

SELECT-O-MATIC PHONOGRAPH SPEAKERS

A crossover network, Model CN600-1, divides the audio output of the amplifier and feeds the low frequencies only into the two 12 inch heavy duty "woofers", and the wide range high frequencies to the two 8 inch high quality speakers. The latter are enclosed in an accoustical chamber designed to prevent intermodulation and provide excellent sound distribution pattern.

SPEAKER REQUIREMENTS

Except in small locations, adequate distribution of sound at uniform level thru-out the service area can be obtained only by careful placement of a sufficient number of High Fidelity remote speakers.



Power Drawn By All Speakers

Phonograph Speakers	4W
1-HFCV1-12 Speaker (A)	4W
2-HFCV3-8 Speakers (B, C) @4W each	8W
TOTAL WATTAGE	16W

This is a satisfactory amplifier loading.

Figure 12.

REMOTE SPEAKERS

In order to preserve the high quality obtainable from the HFMA1-L6 High Fidelity Amplifier, when remote speakers are to be used, the following types must be used:

A. Type HFCV1-12 Recessed Speaker (Grill type for wall or ceiling mounting-70-Volt Constant Voltage Type.)

B. Type HFCV2-8 Wall Speaker (Wood Cabinet-wall mounting Constant Voltage Type.)

C. Type HFCV3-8 Corner Speaker (Wood Cabinet-ceiling, corner or floor mounting-70-Volt Constant Voltage Type.)

CONNECTION OF HIGH FIDELITY REMOTE SPEAKERS

Constant Voltage Type High Fidelity Speaker Terminals are marked A and B and are connected to matching terminals A and B on the amplifier. The volume level (watts) may be set at each speaker to suit local requirements. A load of 25 watts can be carried by No. 24 wire *(Part No. 502090)* for CV line lengths up to 450 feet. CAUTION: DO NOT CONNECT LOW IMPEDANCE (8 or 16 ohm) SPEAKERS TO THIS AMPLIFIER

SELECT-O-MATIC SPEAKER SWITCH

Set the Multiple Select-O-Matic Speaker Switch on the front of the amplifier chassis to the position which gives the best balance between the Select-O-Matic Speakers and the remote speakers with normal volume control setting. IF NO REMOTE SPEAKERS ARE USED, THE SWITCH MUST BE SET TO 20 WATTS.

The wattage of all speakers must be added (including the Select-O-Matic Speakers) and the total watts absorbed by all speakers must not exceed 25 watts, which is the power rating of the HFMA1-L6 Amplifier. At no time should the total amplifier load be less than six watts. (25% of rated amplifier load.)

NOTE: If the wattage of all speakers (including the Select-O-Matic Speakers) to be connected to the High Fidelity Master Amplifier, Type HFMA1-L6, exceeds 25 watts, a Seeburg power amplifier may be used to supply part of the load. Follow the instructions supplied with the amplifier for connecting speakers.

WALL-O-MATIC "200", TYPE V-3WA

The remote choice of 200 selections is made possible by the Wall-O-Matic, Type V-3WA which pulses the Tormat Selection Receiver to register selections on the Select-O-Matic "200" Mechanism. A sufficient number of these units should be used and placed to provide convenient selection from all parts of the location.

Power to operate up to six Wall-O-Matics is available from the Tormat Selection Receiver. When more than six Wall-O-Matics are used, additional power supplies Type PS6-1Z, are are required. For each power supply that is added, six additional Wall-O-Matics may be used.

The wiring of the Wall-O-Matics is facilitated by the use of special cable, *Seeburg Part No. 12015,* which is available in continuous lengths as required. Details of wiring and installing the Wall-O-Matic "200" are included in the instruction folder shipped with each Wall-O-Matic "200".

Bar Bracket Assembly, *Seeburg Part No. 500200,* is available for rigidly mounting the Wall-O-Matic on bars, counters and tables.

MASTER REMOTE VOLUME CONTROL, TYPE NO. MRVC-2 (Accessory)

The Master Remote Volume Control, Type MRVC-2 comes completely wired and ready for use. Although equipped with 60 feet of cable, inherent loss compensation permits as much as 100 feet with no appreciable loss in frequency response. It is only necessary to remove the 9-prong dummy plug from the Master Remote Amplifier and the 2-prong Cancel Plug from the Tormat Selection Receiver and replace with the corresponding plugs on the cable of the MRVC-2, and dress the cable to the permanent position selected for the control unit. Screws and cable clamps furnished with this kit make it easy to do a neat, workmanlike installation.

CAUTION: DO NOT ATTEMPT TO USE OBSOLETE TYPE DRVC-1 or MRVC-1.

MICROPHONE PREAMPLIFIER AND MIXER, TYPE PAK4-L56 (Accessory)

The Microphone Preamplifier and Mixer Kit, Type PAK4-L56, may be used with the Select-O-Matic "200" on any installation requiring the transmission of voice or live music thru the Seeburg Sound Distribution System.

HIGH FIDELITY CONSTANT VOLTAGE SPEAKER CONTROL, TYPE HF25LT-2 (Accessory)

This is a control designed for use with Constant Voltage Speaker lines. It can be used to control the power (in 3 db steps) to one or more High Fidelity Constant Voltage type speakers.

TESTING

After the installation has been completed, all units should be carefully tested to see that they perform properly. Make several selections from the Electrical Selector and from each Wall-O-Matic and see that the selections made have correctly registered on the Tormat Memory Unit. Check the quality of music, and note that music can be heard at a comfortable volume level in all parts of the service area. See that all cables are dressed into inconspicuous places to present a neat appearance and prevent mechanical damage to them.

RECORD CARE

To avoid accumulation of dust and dirt, keep oil off the records. Wipe your hands with a clean cloth before handling records, and always handle records by edge and center hole. Records that show signs of surface dust or dirt should be wiped with a slightly dampened cloth, using a circular motion. Use only water to dampen the cloth - solvents will damage the records. Records not in use should be stored on edge in a cool place. Avoid exposing the records to excessive heat. Records become overheated in a very short ime if exposed to direct sunlight or if stored in a closed automobile or truck. Temperature above 120° F. should be avoided.

See instructions on "Placing the Select-O-Matic "200".

PICKUP STYLUSES

The styluses of the new high fidelity magnetic pickups are permanently mounted in the removable armature assemblies. *See Figure 13.* The extremely low armature mass, high compliance, and low stylus force of this quality pickup greatly increases stylus life and record life. The armature assemblies furnished with the Seeburg magnetic pickup are tipped with natural Swiss sapphire which is excelled in hardness and wear resistance only by the diamond. When the armature assemblies are changed, all movable pickup parts are renewed and "new" pickup performance is completely assured. There is no need to replace the pickup; it is permanent because it has no moving parts.

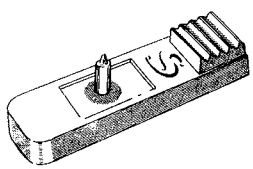


Figure 13. Armature Assembly

STYLUS REPLACEMENT

In the presence of friction, wear of the stylus starts with the first play and continues until the stylus is replaced. The tone quality is good and distortion remains at a low figure for the first few thousand plays but gradually distortion increases until a disagreeable amount is noticeable.

When only pure vinylite 45 rpm records are used, armature assemblies with sapphire styluses should be changed every four or five thousand plays to maintain good reproduction. If, because of the presence of oil on the records, dust or dirt is permitted to accumulate and remain on the surface, the wear will be more rapid; economical operation will require more frequent armature assembly replacement.

If the Armature Assemblies are not replaced before objectionable distortion sets in, the records may be permanently damaged, and replacing the Styluses will not restore the original tone quality.

Because the cost of a pair of armature assemblies is only a small fraction of the cost of a set of records, it is economically sound to replace them on a regular schedule rather than on a hit-or-miss basis. A schedule can be most easily determined from instrument income. The armature assemblies with sapphire styluses should be changed according to the following table if the records are arranged for approximately equal distribution of play between the right and left sides of the pickup:

Approximate Weekly Gross Receipts:	* Change Both Armature Assemblies Every
$ 25	8 months
$ 50	4 months
$ 75	3 months
$100	2 months
$150	6 weeks

* Maximum stylus life

The table is based on ten cents per selection and three to six thousand plays for each stylus. THE COST OF REPLACING ARMATURE ON THIS SCHEDULE IS LESS THAN ½ OF 1% OF GROSS INCOME.

DIAMOND STYLUSES

With the use of a diamond stylus, many times the above number of plays per replacement is assured. The long run economy more than outweighs the higher purchase price. Armature assemblies with diamond styluses that fit the Seeburg Magnetic Pickup Head are obtainable through your Seeburg Distributor.

TO REPLACE ARMATURE ASSEMBLIES

1. Make a selection to the right of magazine center and left side of a record (Example U8) to position carriage and pickup arm cradle for easiest access to styluses.

2. Remove worn styluses by placing thumb nail against plastic armature assembly just behind raised shoulder. Light pressure in the direction away from the stylus point will cause replaceable assembly to slide free of cartridge slot.

3. Install new armature assembly by laying it FLAT in open end of cartridge slot, and sliding forward in slot until it bottoms. Use thumb nail against plastic raised shoulder in reverse of Step 2 to complete travel when the assembly bottoms.

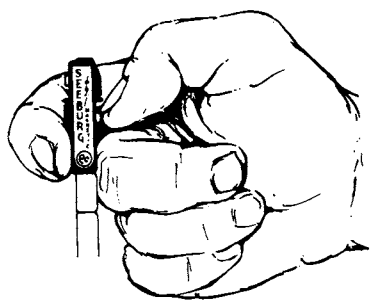


Figure 14. *Removing Armature Assembly*

In order to retain good quality of reproduction it is necessary to keep the pickup and styluses clean and in good condition.

CAUTION: The pickup and styluses must be handled carefully or the delicate armature suspension may be damaged.

When records are changed, or the equipment is cleaned the styluses and the stylus brushes should be cleaned by using the small brush furnished for this purpose and mounted in the cabinet as shown in *Figure 24.*

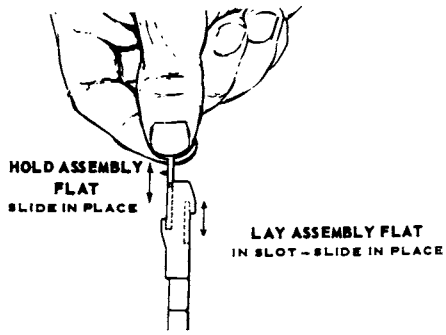


Figure 15. Installing New Armature Assembly

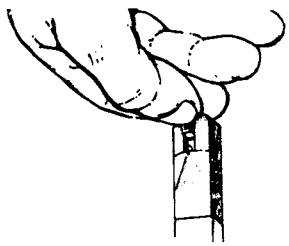


Figure 16. Installing New Armature Assembly

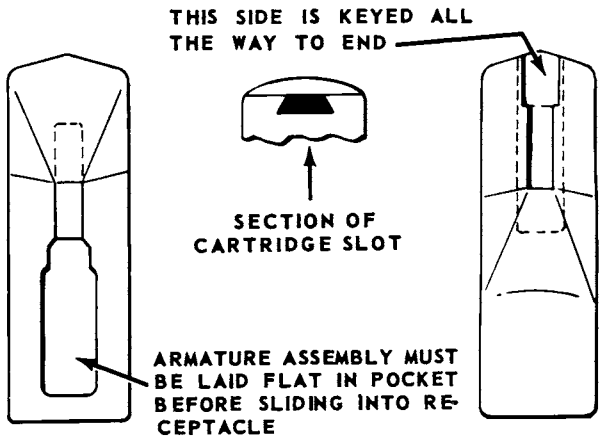


Figure 17. Keyed Fit of Armature Assembly

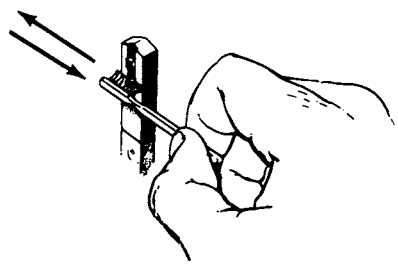


Figure 18. Clean Stylus Regularly

MECHANISM ACCESS

To expose front of the mechanism for "in the cabinet" servicing:

1. Open lid and select left record side selection (Example A5) to locate pickup on left side.
2. Cover the pickup cartridge with the plastic protective case.
3. Remove the carriage cover as follows:
   a. Unscrew the two mounting screws: One is on the lower left hand side of the cover; the other is located on top.
   b. Lift up and move forward to remove carriage cover.

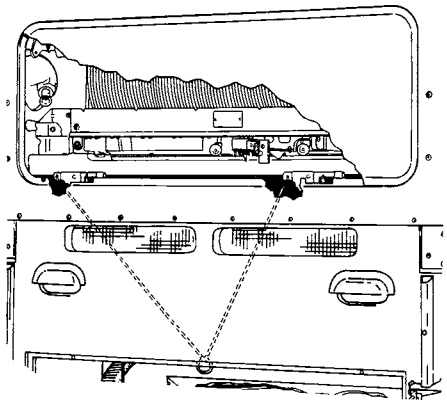


Figure 19.

To service rear of mechanism such as adjustment of Tormat Contact Block or clutch mechanism:

1. Remove Rear Access Panel above phonograph rear door, *Figure 19*, in the following manner:
   a. Open rear compartment door.
   b. Reach up and pull down on access panel release cable to unlatch.
   c. Swing panel out and pull down to remove.
2. Remove magazine filler by unscrewing (1), (2) and (3) and withdrawing entire section from the front of the record magazine, *Figure 20*.
3. Operate the service switch to position mechanism to the extreme right of its travel thus exposing the serviceable section to view, *Figure 21*.

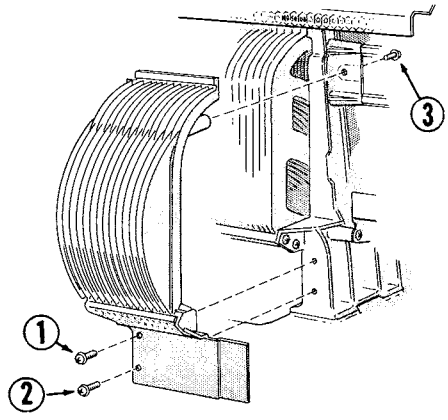


Figure 20.

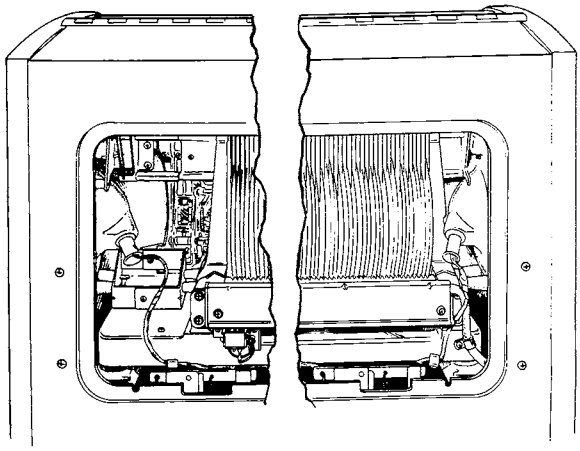


Figure 21.

COMPLETE REMOVAL OF MECHANISM

When it is necessary to remove the mechanism from the cabinet for servicing, proceed as follows:

1. Disconnect Mechanism and Tormat Selector Unit cables from Amplifier and Tormat Selection Receiver chassis.
2. Unlatch Upper Cabinet Lamp Assembly, *Figure 22*, by lifting lever. Pull left hand corner to disconnect A. C. plug and withdraw assembly.

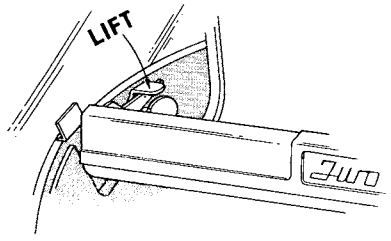


Figure 22.

3. Slide out Drum Diffusor Screen from under mechanism.
4. Remove Program Drum assembly as follows:
   a. Disconnect left hand A.C. plug and right hand power and control connectors.
   b. Unlatch drum assembly by pulling forward and to the right on latch bars.

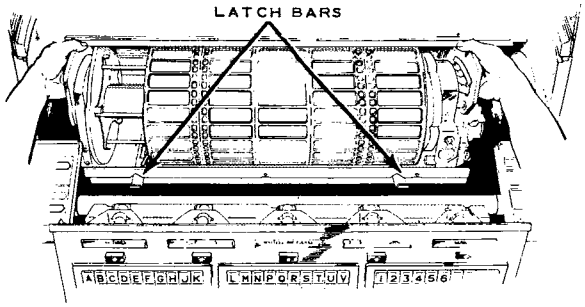


Figure 23a.

   c. Grasp drum assembly, lift off locating pins and with a radial motion, out of cabinet. *See Figures 23a and 23b.*

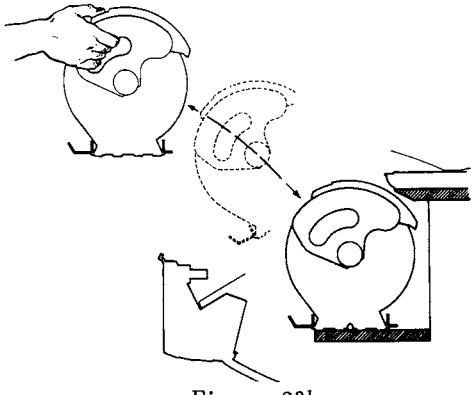


Figure 23b.

5. Unlock mechanism frame by removing "OUTER" c-washer on each channel locking pin; remove locking pins *Figure 24.*
6. Slide mechanism forward, clear of channel guides and lift out.

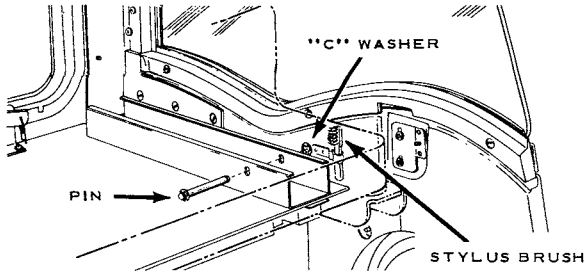


Figure 24.

LUBRICATION

The mechanism and other mechanical parts should be lubricated periodically. The recommended lubricants are Seeburg Select-O-Matic Oil, *Part No. 53014,* and Aero Lubriplate, *Part No. 53006.*

Seeburg Select-O-Matic Oil is a light machine oil, especially suited to lubrication of small machinery operated normally in the "room temperature" range. It is free of waxy constituents, pours easily at low temperatures, and has exceptional anticorrosive properties.

Follow the complete lubrication instructions given on the lubrication chart in the envelope on the wall of amplifier compartment.

UPPER CABINET LAMP

Access to the 25 watt (33 inch) Daylight fluorescent lamp or starter is gained by first removing the Upper Cabinet Lamp Assembly, *Figure 22,*

To remove the lamp pull back the rear shield, *Figure 25,* and rotate the lamp 90° in either direction and lift out of sockets.

Figure 25.

LOWER CABINET LAMP

The above mentioned is a 25 watt (33 inch) Daylight fluorescent lamp with associated starter. To remove, swing open the electrical selector panel, rotate the lamp and lift out of sockets. Cock lamp so that left end rests in hollow section of cabinet, position No. 2 – *Figure 26,* and direct right end of lamp out of phonograph.

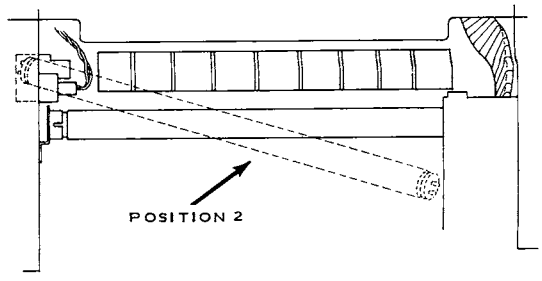


Figure 26.

PROGRAM SELECTOR DRUM LAMP

Remove drum assembly from cabinet as explained in "Complete Removal of Mechanism" section and pull out light assembly, *Figure 27.* The 20 watt, 24 inch fluorescent lamp can now be detached from its sockets in the conventional manner.

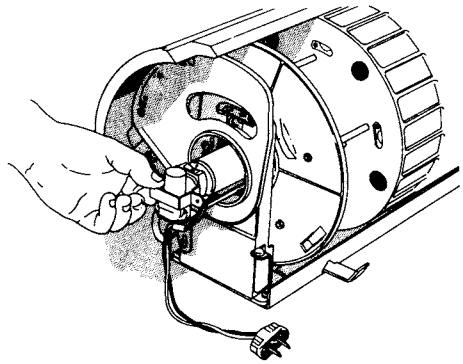


Figure 27.

CABINET SIDE WINDOW LAMPS

Two cabinet side windows are illuminated by No. 81 lamps which are accessible by pulling the lamp sockets out of the reflectors, *Figure 28.*

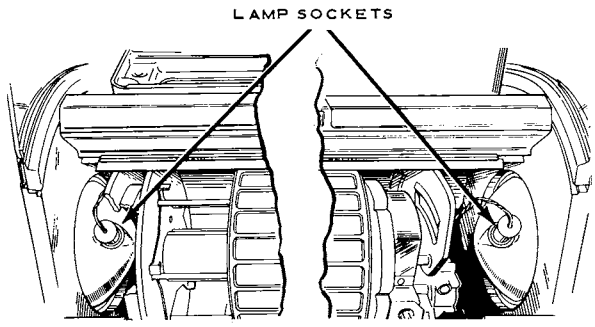


Figure 28.

MAGAZINE END COVER LAMPS

These assemblies are similar to the cabinet side window lamps and can be serviced in the same manner. They are readily accessible after removal of the rear access panel, *Figure 21.*

"SELECTION NOW PLAYING" LAMPS

To replace lamps, *Figure 29,* swing popularity meter cover down exposing lamp assembly then loosen two screws and remove Indicator Plate by lifting forward and sliding to the right. Remove light shield and replace lamp with No. 44. Replace light shield and indicator plate. Be certain that protrusions on back of indicator plate are firmly seated before tightening screws.

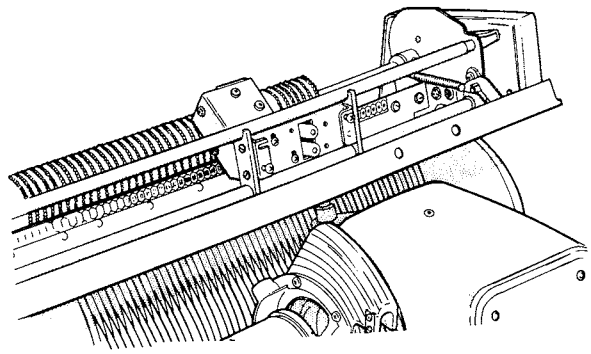


Figure 29.

CLASSIFICATION HEADING LAMPS

Five Classification Heading Lamps using No. 81 bulbs are installed behind the Tormat Electrical Selector panel, *Figure 30,* and are retained in standard bayonet sockets.

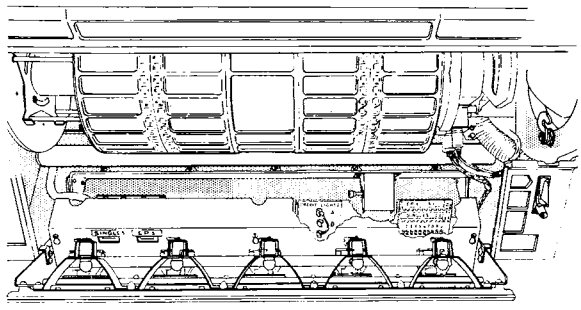


Figure 30.

CREDIT LAMPS

Three credit lamp socket assemblies using No. 55 bulbs are cabled on the right hand side of the Tormat Electrical Selector. The sockets are appropriately labeled for their location in the credit window. WHEN SERVICING MAKE SURE THAT SOCKETS ARE CORRECTLY ORIENTED. Misplacement will falsify credit indications.

SLUG REJECTOR

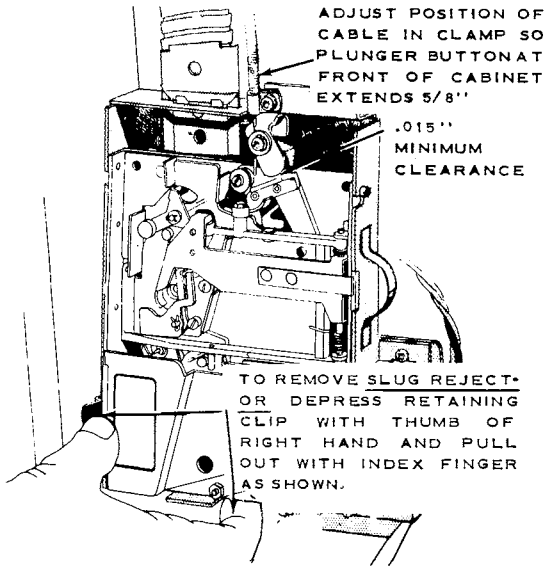


Figure 31.

As indicated in *Figure 32,* the coin mechanism assembly may be moved to the right thus permitting test of the Slug Rejector and Coin Equipment without the necessity for opening the cash box.

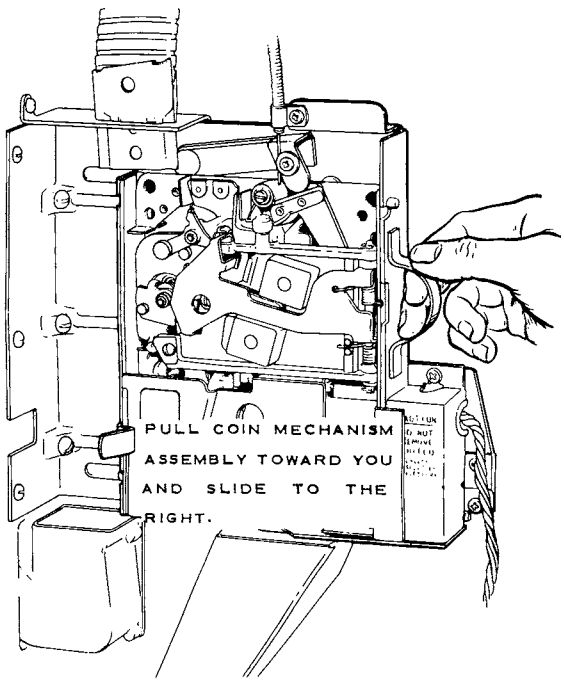


Figure 32. Coin Mechanism Shift

APPEARANCE

To maintain good appearance of the phonograph, and thus keep customer appeal at its maximum level, the various pieces of glass should be kept clean: lid glass, side glasses, and cabinet side glass medallion windows.

Use only clear liquid cleaners, as types containing powder can impair reliability of of electrical contacts, and cause excessive wear of records, styluses, and mechanism bearings.

Interior trim and all chrome plated parts also should be cleaned occasionally. These parts include Key Panel Frame and plated parts in the mechanism compartment.

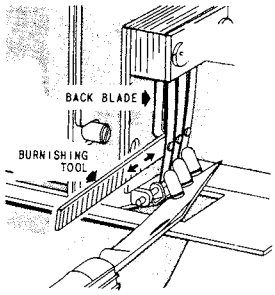
PREPARING INSTRUMENT FOR MOVING

1. Put the two ¼ inch wood shims under the base at the mechanism hold-down bolts.
2. Tighten four mechanism hold-down nuts.
3. Remove all records from magazine.
4. With the pickup arm in left hand side playing position, scan mechanism to a point at selections A-1, B-1.
5. Place protective tube over pickup cartridge and install pickup arm shipping support.
6. Put two fibre pads (a long pad in the rear and a short pad in the front) under the carriage wheels and bolt the carriage to the base by means of two 4½ inch long thumb screws, which are to be inserted thru mechanism shelf from rear of cabinet.

TO SHIP

If the instrument is to be shipped by way of a transportation company, it should be blocked and crated in the same manner in which it was received from the factory.

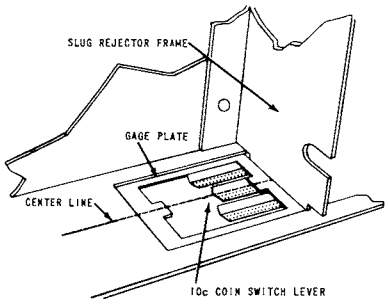
COIN SWITCHES



CLEANING

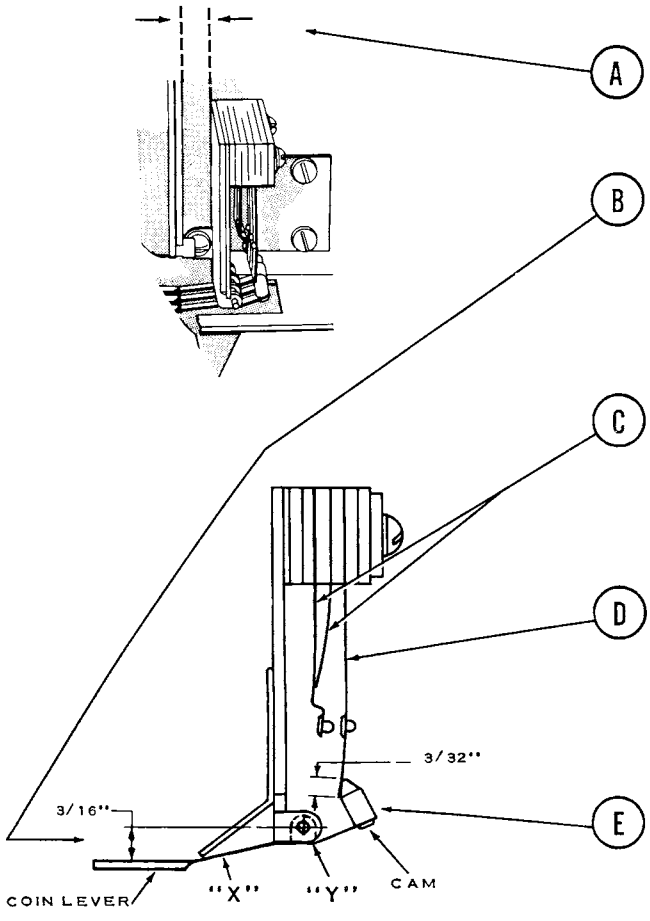
Clean the switch contacts carefully with carbon tetrachloride using a No. 2 camel hair brush.

Burnish by inserting a burnishing tool between the contacts, raising the switch lever with a knife blade as shown. *Never use a file or sandpaper for contact cleaning.*



COIN LEVER ALIGNMENT

The coin switch levers should be parallel with the opening in the gage plate and the center lever (10¢) should center on the projection of the gage as shown. Lateral play of the lever should be taken into account when checking the position of the 10¢ switch lever.



SWITCH ADJUSTMENT

A) Adjust the coin switch mounting so the bracket is vertical and parallel with the vertical edge of the slug rejector frame.

B) Adjust the coin levers so they are parallel with the bottom edge of the rejector and are bearing against the bracket at "X". The ends of the levers should be approximately 3/16" below the level of the lever pivot, "Y".

C) Adjust short blade and bracer for 1/32" to 3/64" contact gap (all switches) with short blade bearing against tip of bracer at approximately 2 to 3 grams (measured at contact point).

D) Adjust the long blade so it bears against the cam, as measured at the switch contact:

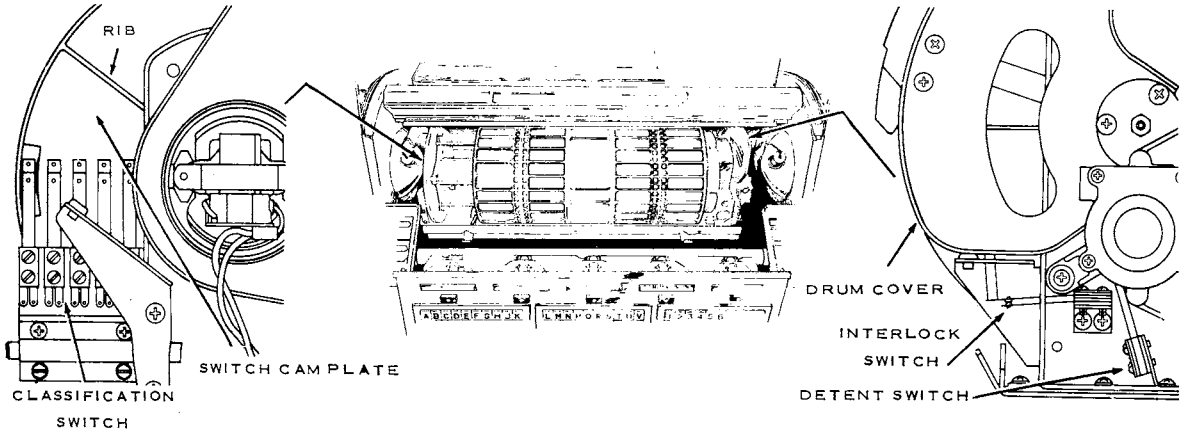
Nickel switch (front) – 10 to 14 grams

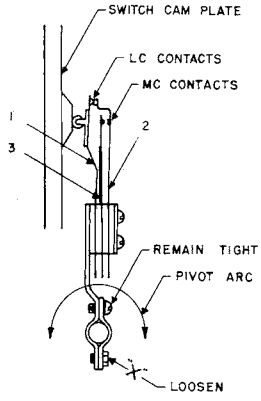
Dime switch (middle) – 5 to 7 grams

Quarter switch (back) – 12 to 16 grams

E) Adjust the switch actuating cams to be tilted as shown and overlap the switch blade approximately 3/32".

PROGRAM DRUM SWITCH ADJUSTMENTS





CLASSIFICATION SWITCH

A. Detent drum so outermost cam on switch cam plate is under switch roller.

B. Loosen hex head screws, "X", at bottom of switch mounting plate just enough to permit pivoting of mounting plate and switches.

C. Pivot the mounting plate so the MC contacts of the switch on the cam have a 1/32" gap and tighten hex head screws.

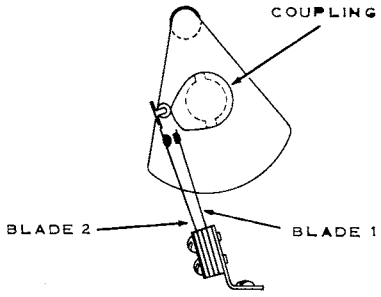
D. Turn the drum, manually, so rib on cam plate is under roller of switch blade 1.

E. Adjust blade 1 so roller clears rib approximately 1/32".

F. Adjust blade 2 so LC contacts have 3/64" to 1/16" gap.

G. Recheck MC contacts with roller again on cam, and if necessary, adjust blade 3 for 1/32" gap.

H. Using steps 5 through 7, adjust remaining four switches. When switches are correctly adjusted, the clearance between the ribs on the cam plate and the rollers of all switches will be approximately 1/32".



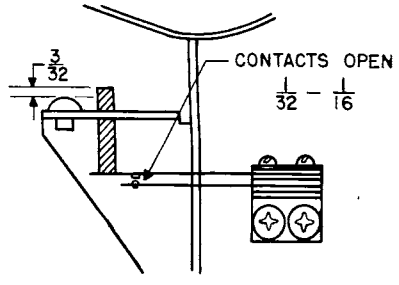
DETENT SWITCH

A. Detent drum so roller is on cam lobe of the coupling.

B. Adjust blade 1 for 1/32" contact gap.

C. Rotate coupling (operate motor) so cam lobe is facing *away* from roller of blade 2.

D. Adjust blade 2 so there is 1/64" to 1/32" clearance between the roller and the coupling.



INTERLOCK SWITCH

A. With drum cover lifted for access to title strips, button on upper blade of switch should project approximately 3/32" above the bumper and contact gap should be 1/16".

LUBRICATION

Seeburg Select-O-Matic oil to be applied to roller pins, studs, lever pivots, and motor oil holes in each bearing cap.

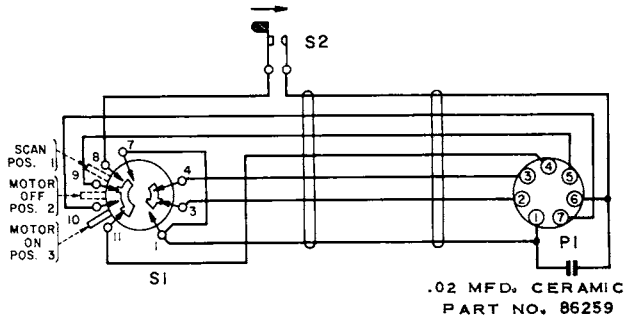


Figure 33. Schematic Diagram - Service Switch (S1) & Service Credit Switch (S2)

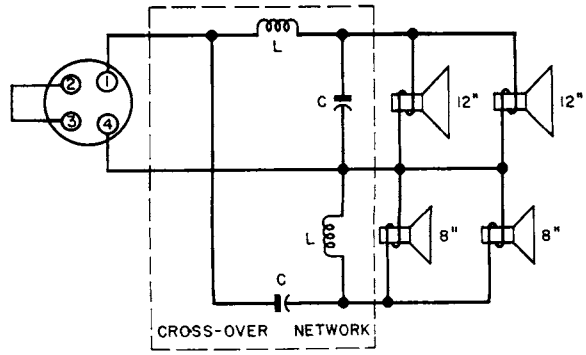


Figure 34. Schematic Diagram Speaker Circuit

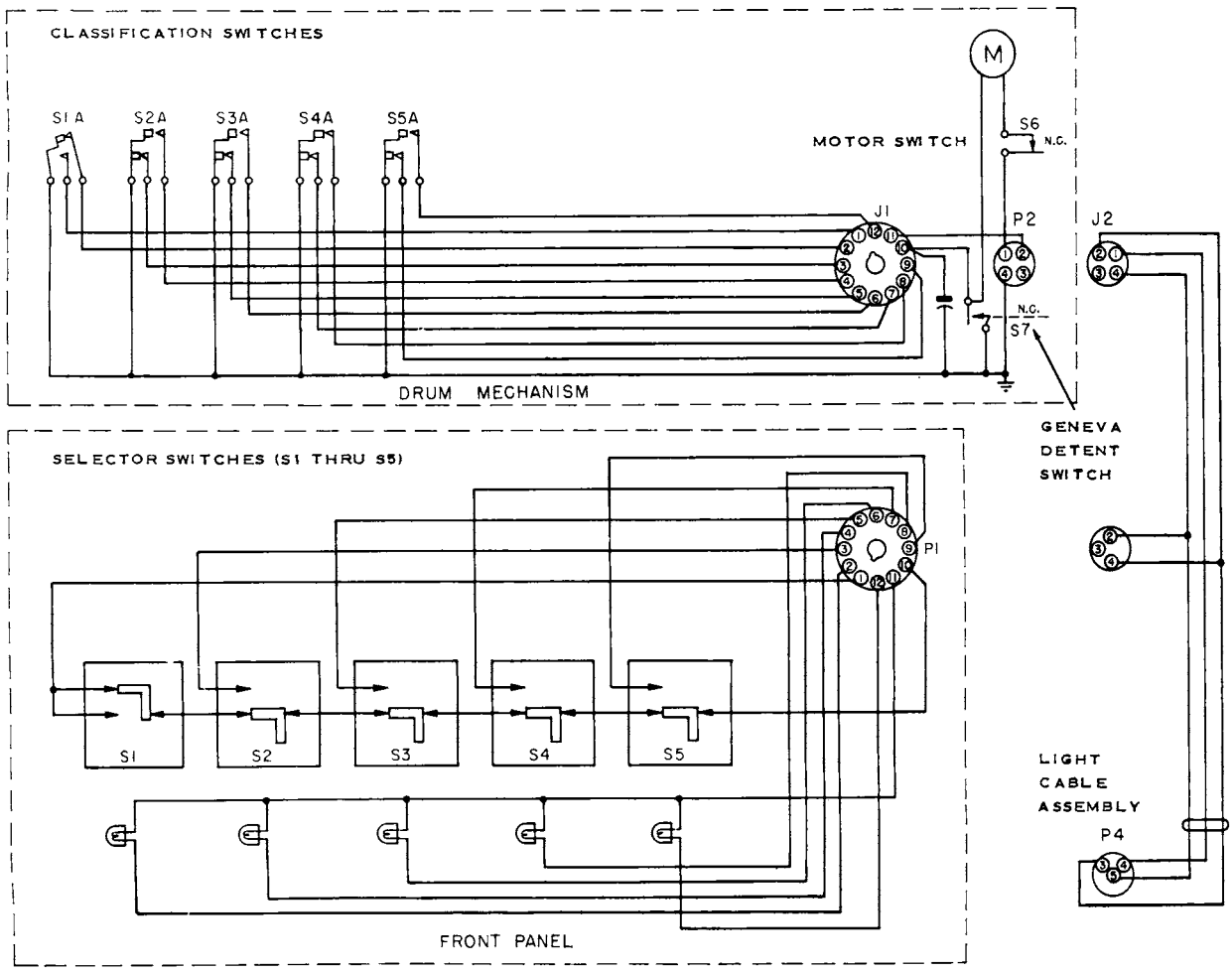


Figure 35. Program Drum Schematic

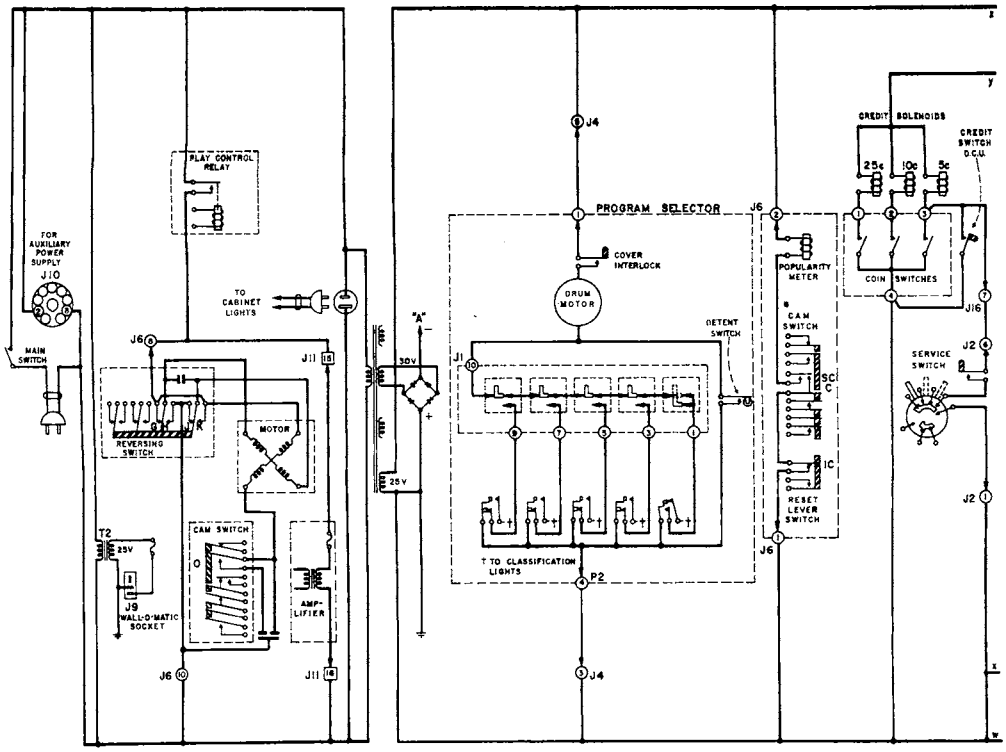


Figure 36a. Simplified Schematic Diagram -- Power and Control Wiring (Part 1)

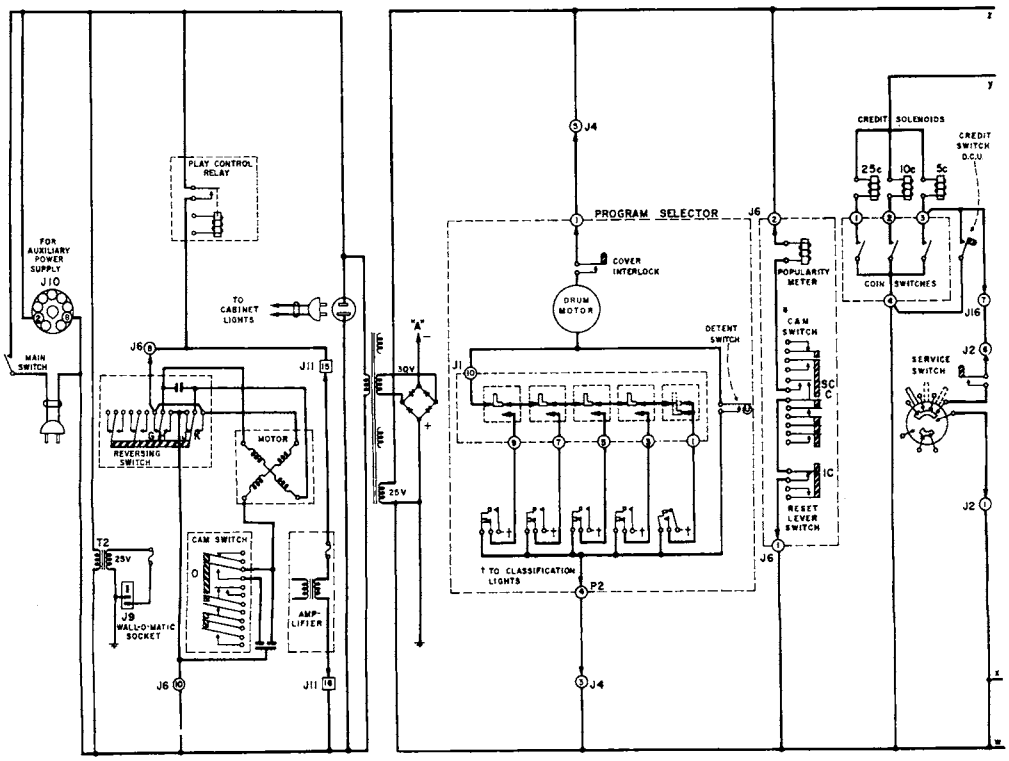


Figure 36a. Simplified Schematic Diagram -- Power and Control Wiring (Part 1)

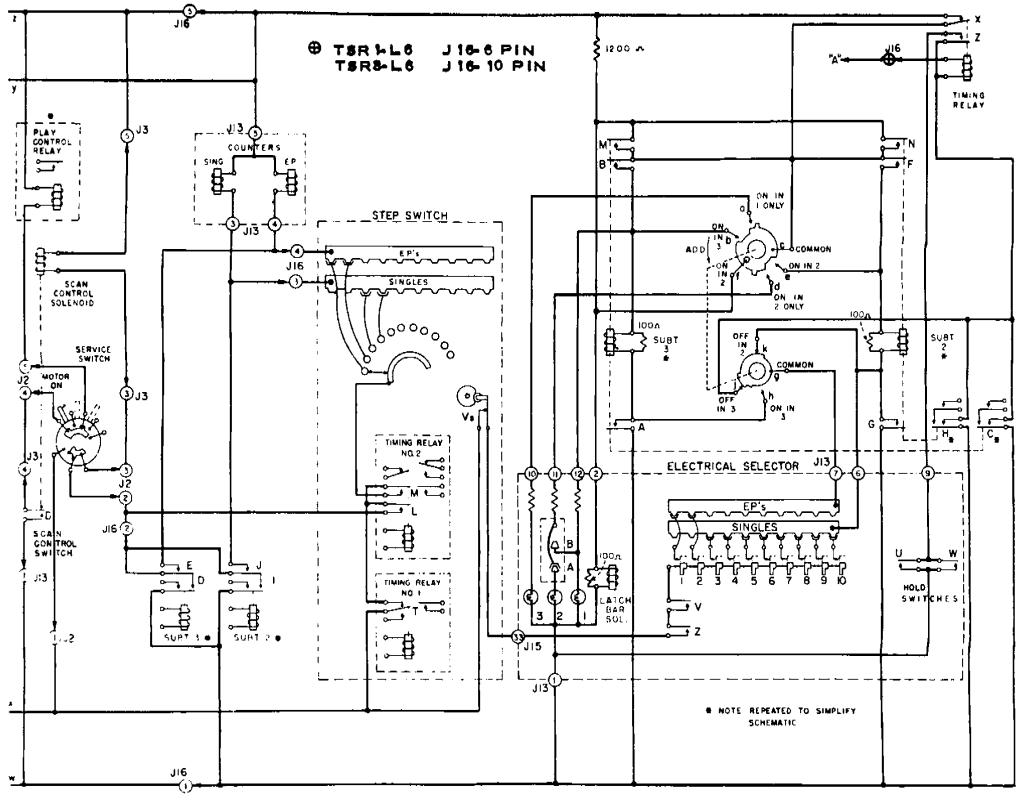


Figure 36b. Simplified Schematic Diagram – Power & Control Wiring (Part 2) With DCU1-L6 in TSR1-L6 and DCU1L-L6 in TSR3-L6

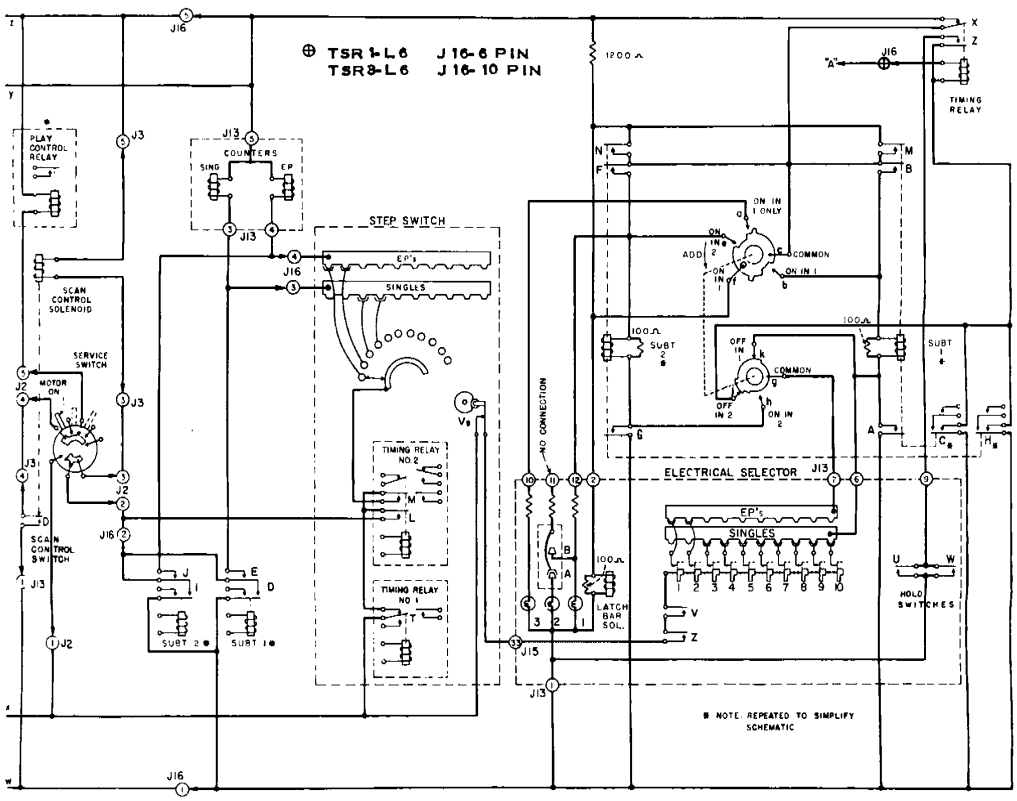


Figure 36c. Simplified Schematic Diagram – Power & Control Wiring (Part 2) With DCU5-L6 in TSR1-L6 and DCU1L-L6 in TSR3-L6

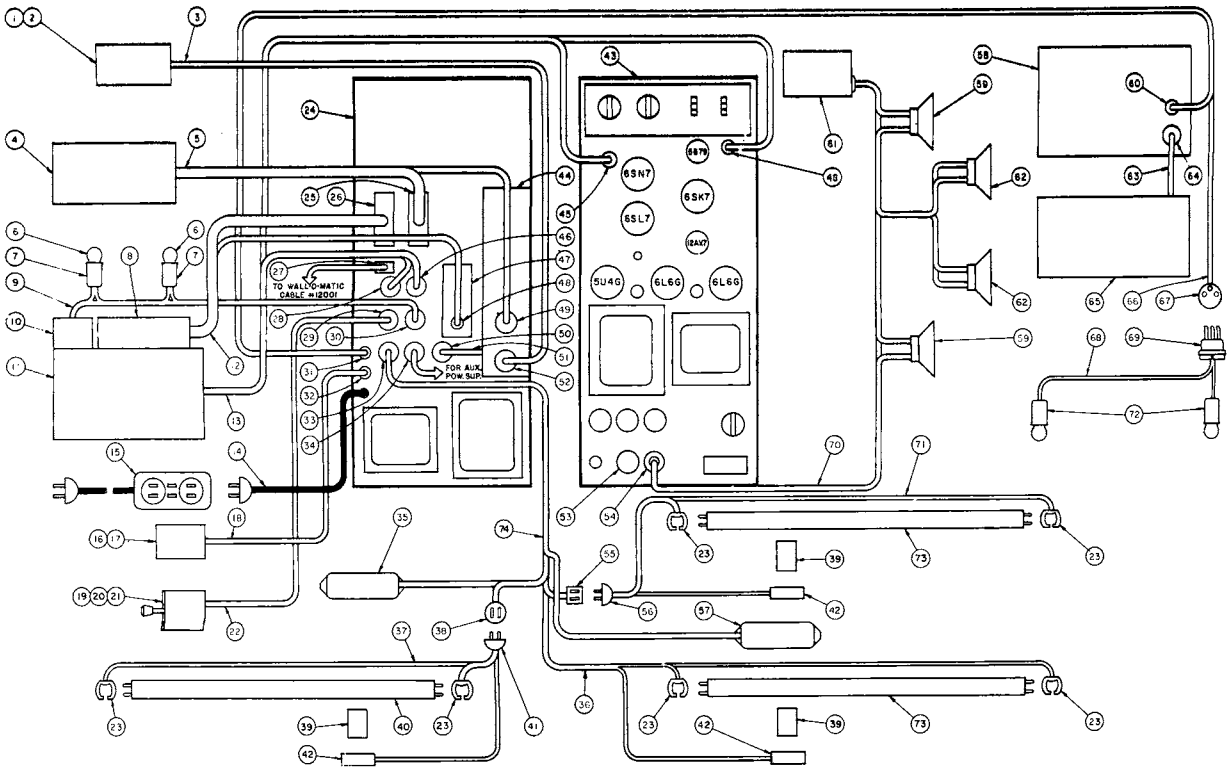


Figure 37. Cabinet Cabling Diagram

PARTS LIST

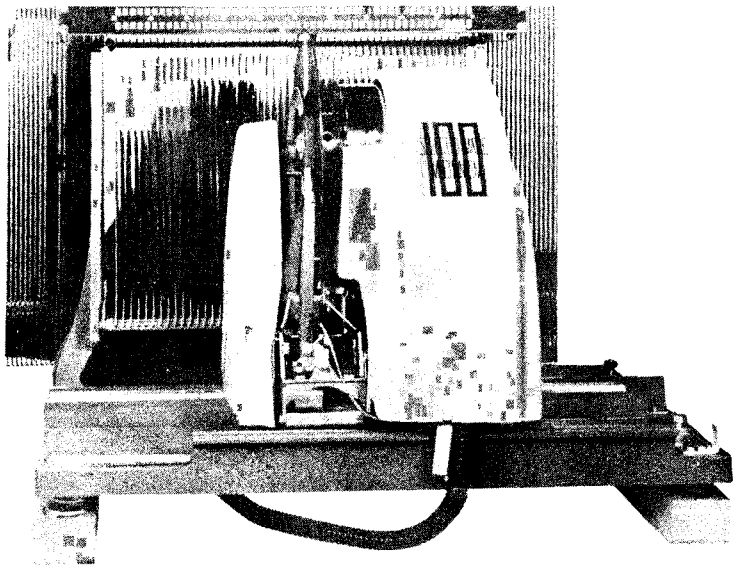
Item	Part No.	Part Name
1	401820	COIN SWITCH
2	401822	COIN SWITCH & CABLE ASSEM.
3	401761	COIN SWITCH CABLE & PLUG ASSEM.
4	410550	TORMAT ELECTRICAL SELECTOR (TES1-L6)
5	410721	CONTROL CABLE & PLUG ASSEM.
	410720	MATRIX CABLE & PLUG ASSEM.
6	247307	LAMP NO.63, FROSTED
7	247049	LAMP SOCKET ASSEM. (END BELL)
8	304600	TORMAT MEMORY ASSEM. (200 TM1)
9	247085	SCAN CONTROL CABLE & PLUG ASSEM.
10	247051	SCAN CONTROL ASSEM.
11	247000	MECHANISM, TYPE 245ST1-L6 (V-200)
	247460	MECHANISM, TYPE 245ST3-L6 (VL-200)
12	304655	TORMAT MEMORY CABLE ASSEM.
13	247820	CONTROL CABLE ASSEM.
14	303571	LINE CORD ASSEM.
15	402152	LINE CORD & OUTLET ASSEM.
16	408247	RECORD REJECT SWITCH ASSEM.
17	402065	RECORD REJECT SWITCH
18	408248	RECORD REJECT SWITCH CABLE ASSEM.
19	408275	SERVICE SWITCH ASSEM.
20	408171	SERVICE SWITCH
21	408389	MANUAL CREDIT SWITCH
22	408230	SERVICE SWITCH CABLE & PLUG ASSEM.
23	407352	FLUORESCENT LAMP SOCKET
24	303500	TORMAT SELECTION RECEIVER TYPE TSR1-L6 (V-200)
	303494	TORMAT SELECTION RECEIVER TYPE TSR3-L6 (VL-200)
25	410573	33 PRONG SOCKET ASSEMBLY
25	304657	33 PRONG PLUG ASSEMBLY
27	12015	3 PRONG PLUG
28	65319	6 PRONG PLUG
29	S21117	7 PRONG PLUG ASSEMBLY
30	F200241	5 PRONG PLUG
31	408253	3 PRONG PLUG
32	601170	2 PRONG PLUG
33	10895	2 PRONG PLUG (A.C.)
34	12004	9 PRONG PLUG
35	408243	FLUORESCENT LAMP BALLAST (20 WATT)
36	408246	FLUORESCENT LAMP CABLE ASSEM.
37	201160	PROGRAM LIGHT CABLE ASSEM.
38	F7842	A. C. RECEPTACLE
39	405138	FLUORESCENT LAMP STARTER (25 WATT)
40	406367	FLUORESCENT LAMP (20 WATT DAYLIGHT)
41	600748	2 PRONG PLUG - A. C.
42	407353	FLUORESCENT STARTER SOCKET
43	305272	HIGH FIDELITY MASTER AMPLIFIER (HFMA1- L6)
44	450000	DUAL CREDIT UNIT, DCU1-L6 (V-200-D)
	450002	DUAL CREDIT UNIT, DCU3-L6 (V-200-N)
	450500	DUAL CREDIT UNIT, DCU1L-L6 (VL-200-D)
	450502	DUAL CREDIT UNIT, DCU3L-L6 (VL-200-N)
45	250938	3 PRONG PLUG
46	250942	11 PRONG PLUG
47	303590	PULSE AMPLIFIER
48	246957	SINGLE PRONG PLUG
49	410707	12 PRONG PLUG ASSEMBLY
50	12028	8 PRONG PLUG (V-200)
	410707	12 PRONG PLUG (VL-200)
51	450245	DCU CABLE & PLUG ASSEM. (V-200)
	450560	DCU CABLE & PLUG ASSEM. (VL-200)
52	401521	4 PRONG PLUG
53	305316	DUMMY PLUG
54	F3150	4 PRONG PLUG
55	408368	A. C. RECEPTACLE
56	408272	2 PRONG PLUG - A. C.
57	408241	FLUORESCENT LAMP BALLAST (DUAL 25 WATT)
58	201000	CLASSIFICATION SELECTOR DRUM ASSEM. (PDA1- L6)
59	408307 408305	8" SPEAKER (V-200)
	408818	8" SPEAKER (VL-200)
60	408250	4 PRONG SOCKET (CABLE)
61	503600	CROSSOVER NETWORK (CN600-1)
62	408315 408317	12" SPEAKER
63	408153	SELECTOR PANEL CABLE ASSEM.
64	408155	12 PRONG PLUG
65	408120	SELECTOR PANEL ASSEM.
66	408234	LIGHT CABLE ASSEM.
67	408483	3 PRONG SOCKET (CABLE)
68	408244	SIDE LIGHT CABLE ASSEM.
69	408482	3 PRONG PLUG
70	408263	SPEAKER CABLE ASSEM.
71	408158	LIGHT SHIELD CABLE ASSEM.
72	408232	LIGHT SOCKET
	402180	LAMP NO. 81, FROSTED
73	405136	FLUORESCENT LAMP (25 WATT DAYLIGHT)
74	408271	FLUORESCENT LAMP & BALLAST ASSEM.

RECORD PLAYING MECHANISMS

INDEX

Symphonola	Type	SRC1-L6	2001
	Type	SRC2-L6	2043
Select-O-Matic	Type	100S2-L6	2051
	Type	100S7-L6	2117

SEEBURG
SELECT-O-MATIC "100" MECHANISM
TYPE 100S2-L6



The Select-O-Matic 100 Mechanism, Type 100S2-L6, is designed for automatic selective playing of any of the selections in a library of 50 records. It is designed for use with standard 78 rpm, lateral cut, 10" or 12" disc recordings and will play either side or both sides of the records.

There are two fundamental parts of the Mechanism -- a magazine, and a carriage assembly. The magazine holds the records. The carriage assembly plays the desired program selections by progressively withdrawing the records, playing them, and restoring them to their original position in the magazine.

The record magazine holds the records in a vertical position in openings or spaces that are 5/16" wide (center to center). It is filled from the front of the instrument by merely placing the records in the spaces. The spaces are numbered A1 to K10 for convenience in indexing the selections. There are 10 groups with 10 selections in each lettered group. To avoid confusion with the figure "1", the letter "I" is not used.

The carriage assembly moves, or scans, from side to side of the instrument on a track parallel to, and in front of, the records. The scanning operation of the carriage commences as soon as a selection is made and will continue until the carriage has moved to a position back of a record that is to be played. The carriage stops scanning when it comes to the position for playing the selected record and transfers the record from the magazine to the playing position on the carriage. The carriage assembly transfers the record (when it has finished playing) to its original position in the magazine and scans to the next selected record, or, if no other record has been selected, will come to a stop.

The records are in a vertical position ("on edge") at all times -- in the magazine, during transfer to and from the playing position, and when playing.

SELECTION OF RECORDS

The records are selected by magnetically operated selector levers which are part of a solenoid assembly mounted on the back of the Mechanism. There are 100 levers -- one for each record side -- arranged in two rows of 50 levers each. The levers for playing the right sides of records are in the row toward

the front. The levers for the left record sides are in the row toward the back. When a selection is made with the electric selector or by remote control, a selector magnet coil is momentarily energized and the lever corresponding to the selection number is moved from its normal position to the "play" position. Movement to the play position of any lever closes a circuit to a play control relay which, in turn, starts the scanning operation of the carriage assembly.

A movable selector contact assembly is on a guide rail on the solenoid assembly. It is attached to the carriage assembly with an arm and moves with it. On the contact assembly are two contacts for electrical connection with the selection levers..The contacts pass, without touching, the levers that are in the normal (no selection) position. The levers in position for playing make contact with one of the contacts. The levers in the back row make contact with the "L" (Left Side) contact -- those in the front row make contact with the "R" (Right Side) contact. Contact with the levers operates control relays -- a Left Side Relay and a Right Side Relay -- which control the operation of the carriage assembly.

When a record is selected and is about to start playing, a cancel solenoid operates a plunger which returns the selection lever to its normal position. There are two of these solenoids -- one for the "left side" levers, one for the "right side" levers. They are a part of the selector contact assembly and operate individually to "cancel" the lever corresponding to the record side played.

SEQUENCE OF PLAYING

The sequence of playing of records for a program will be established by their position in the magazine, because the scanning operation of the carriage assembly is interrupted for playing a record only when the direction of scanning is from right to left. The order in which selected records will be played is, therefore, progressively from the "K" group to the "A" group of records.

If both sides of a record are to be played, the right side will play first, then the left side will play.

Summarizing the conditions of record playing sequence: the records will play in progression from the "K" numbers to the "A" numbers beginning with the first selection to the left of the carriage and will play the right side of a record first (when both sides are selected).

MOTOR

All phases of operation of the carriage assembly -- scanning, transfer of the record to and from the flywheel, and playing of the record -- are accomplished with a single motor mounted on the carriage assembly. This motor is 117 volt, 1/100 h.p., split phase capacitor type. The normal motor speed is 1750 rpm while playing a record. More torque is required of the motor during scanning, and when a record is being transferred, and is provided for by connecting additional capacity across a permanently connected condenser during these phases of operation.

The change in direction of scanning and playing of the left or right side of a record requires a change in direction of rotation of the motor. This change is accomplished with a Reversing Relay. The flywheel rotation is counter-clockwise, and the direction of scanning is from right to left when the relay is not energized or held in the energized position.

POWER TRANSMISSION

The motor is coupled through a flexible coupling and through gears to the flywheel (turntable) and a three-position, double-ended clutch member. The flywheel and clutch member are turning at all times -- while the carriage is scanning, during transfer of a record to and from the playing position, and while a record is being played. The sketch, Figure 1, shows the moving parts of the transmission in their related position.

Scanning by the carriage is accomplished by engaging the rotating double ended clutch member with a gear. The gear (part of the sprocket assembly) is meshed with a rack that extends the length of the magazine. The direction of travel (scan) of the carriage is determined by the direction of rotation of the motor and is changed by reversing the motor.

Transfer of a record to and from the playing position is accomplished by engaging the rotating clutch member with the clutch worm which is coupled to, and turns, the cam assembly. The cam assembly operates a series of levers for the different functions of the record transfer and playing cycle.

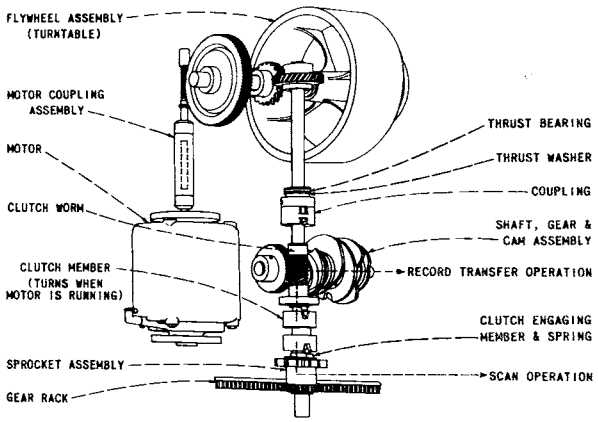


FIGURE 1.

The rotating clutch member is moved to a neutral position (where it is engaged with neither the sprocket assembly nor the cam assembly drive worm) during the playing of a record.

OPERATION CYCLE

The trip contacts on the control relays close a circuit to a Trip Relay. The trip relay when energized causes initiation of an operation cycle for playing a selection. The operation cycle is of three phases and is associated with playing each selection. These phases, in order of their occurence, are: transfer of the record from the magazine; playing the record; transfer of the record to the magazine. The carriage assembly will enter another operation cycle or again scan only on completion of a complete cycle.

TRANSFER OF RECORDS

The records are transferred from the magazine to the playing position and restored to the magazine by a transfer arm. The normal position of the arm during the scanning operation is below the records. It moves upward when a playing cycle is initiated. A forked tip at the end of the arm engages the selected record rolling it onto a chute on the carriage assembly. The chute, and plates each side of the chute, guides the record to the playing position where it is clamped by a clamp plate and arm.

The transfer arm moves down, after the record has been played, lowering the record to its "home" position in the magazine. The record reaches the home position at the conclusion of the operation cycle.

LEFT AND RIGHT SIDE PLAYING

Playing the different sides of records requires a different direction of rotation of the record and, because a single pickup is used, a change in position of the pickup is necessary. If the right side of the record is to be played, the flywheel direction will be counter-clockwise and the pickup will move to, or remain on, the right side of the record. If the left side of the record is to be played, the flywheel direction will be clockwise and the pickup will move to, or remain on, the left side of the record.

The direction of rotation of the flywheel is established at the time the playing operation cycle is initiated (when the record begins to move from the magazine toward the playing position) and continues without change until the record is played and restored to the magazine.

The direction of rotation of the cams in the carriage assembly is the same as that of the flywheel and controls the relative position of the pickup. If a change of position of the pickup is required, it takes place as the record is being transferred from the magazine to the playing position on the flywheel.

10" AND 12" RECORDS

The one inch difference in radius of 10" and 12" records requires one inch less travel of the transfer arm in placing a record in the playing position. The difference in radius also requires a different position of the pickup when it contacts the records. Automatic adjustment for these variations is made by the tilting record chute, stops and levers.

The transfer arm rolls the record onto the chute as it is transferred from the magazine to the play position, causing the chute to tilt. As the record moves towards the playing position, its center of gravity moves past the pivot point of the chute. The shift of gravity past the pivot point takes place later (in the transfer operation) with a 10" record than with a 12" record. The difference in time permits a locking lever to latch the chute in the tilted position if a 10" record is being transferred. If a 12" record is being transferred, the locking lever does not engage the chute and the chute returns to its normal position.

In the tilted position of the chute, the transfer arm will move to within approximately 5 inches of the flywheel center and the pickup needle will correctly engage the grooves of a 10" record. In the normal position of the chute, the transfer arm moves to within approximately 6 inches of the flywheel center and the pickup needle correctly engages a 12" record.

CARRIAGE ASSEMBLY VIEW

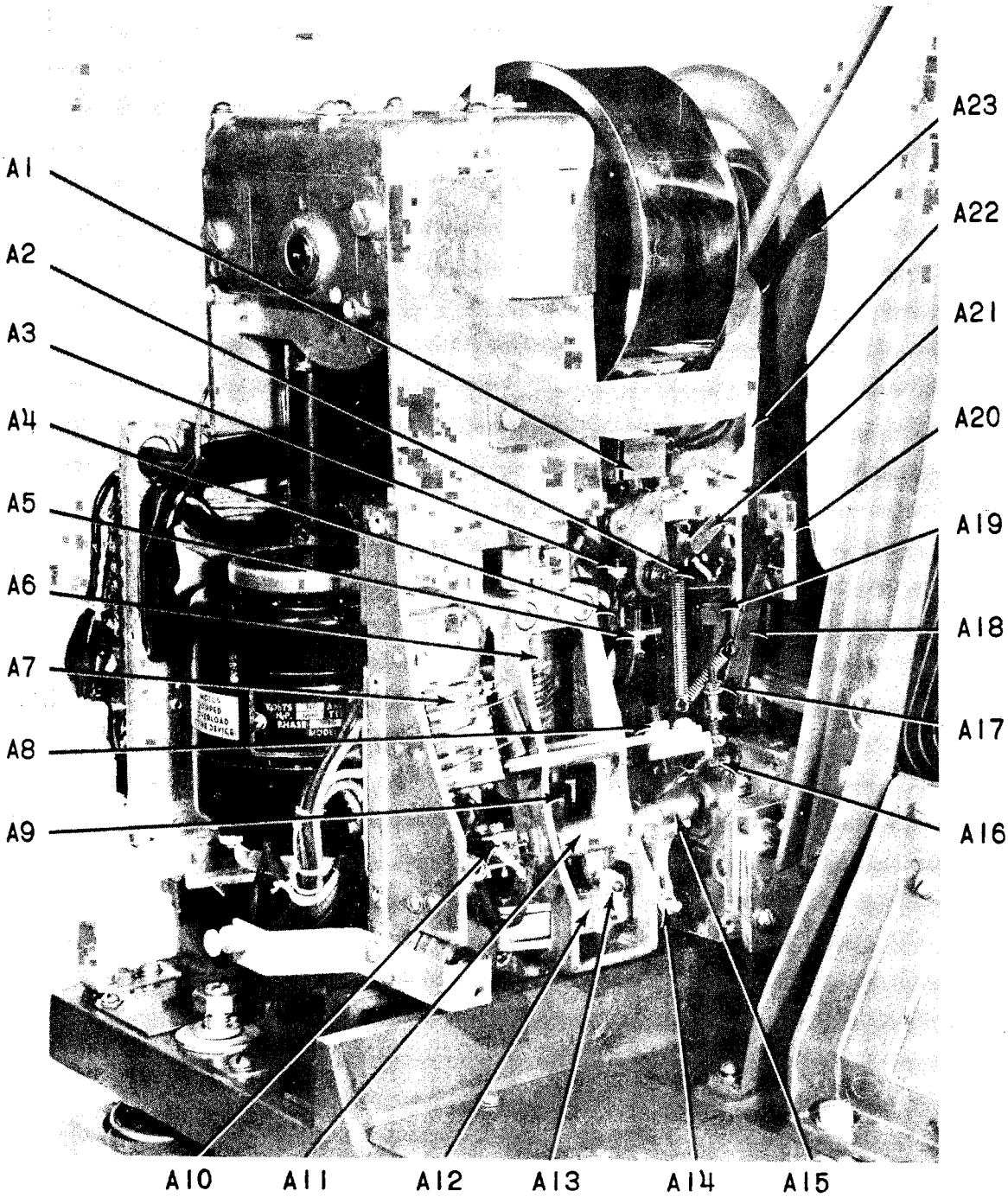


FIGURE A

LITHOGRAPHED IN U.S.A.

CARRIAGE ASSEMBLY VIEW

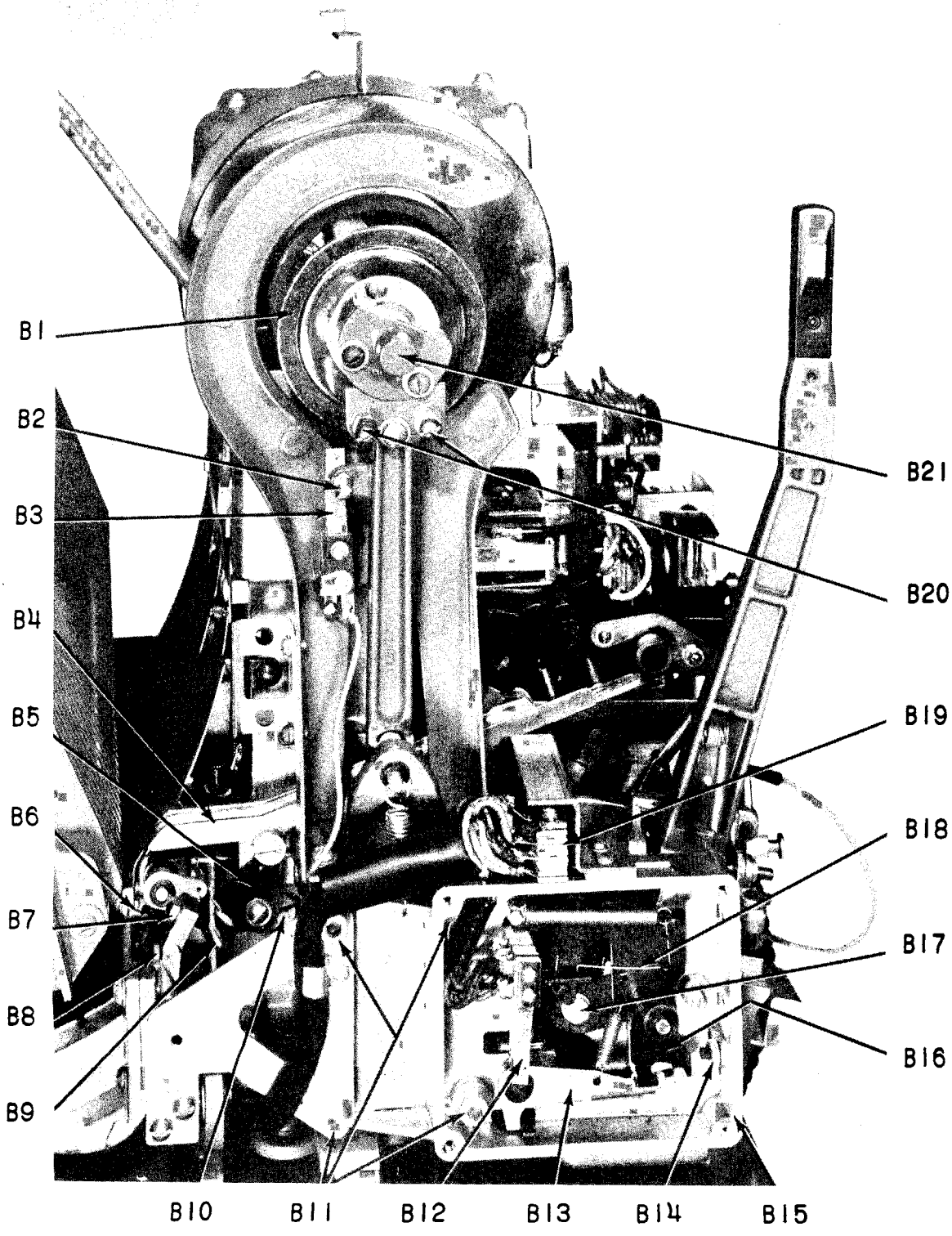


FIGURE B

CARRIAGE ASSEMBLY VIEW

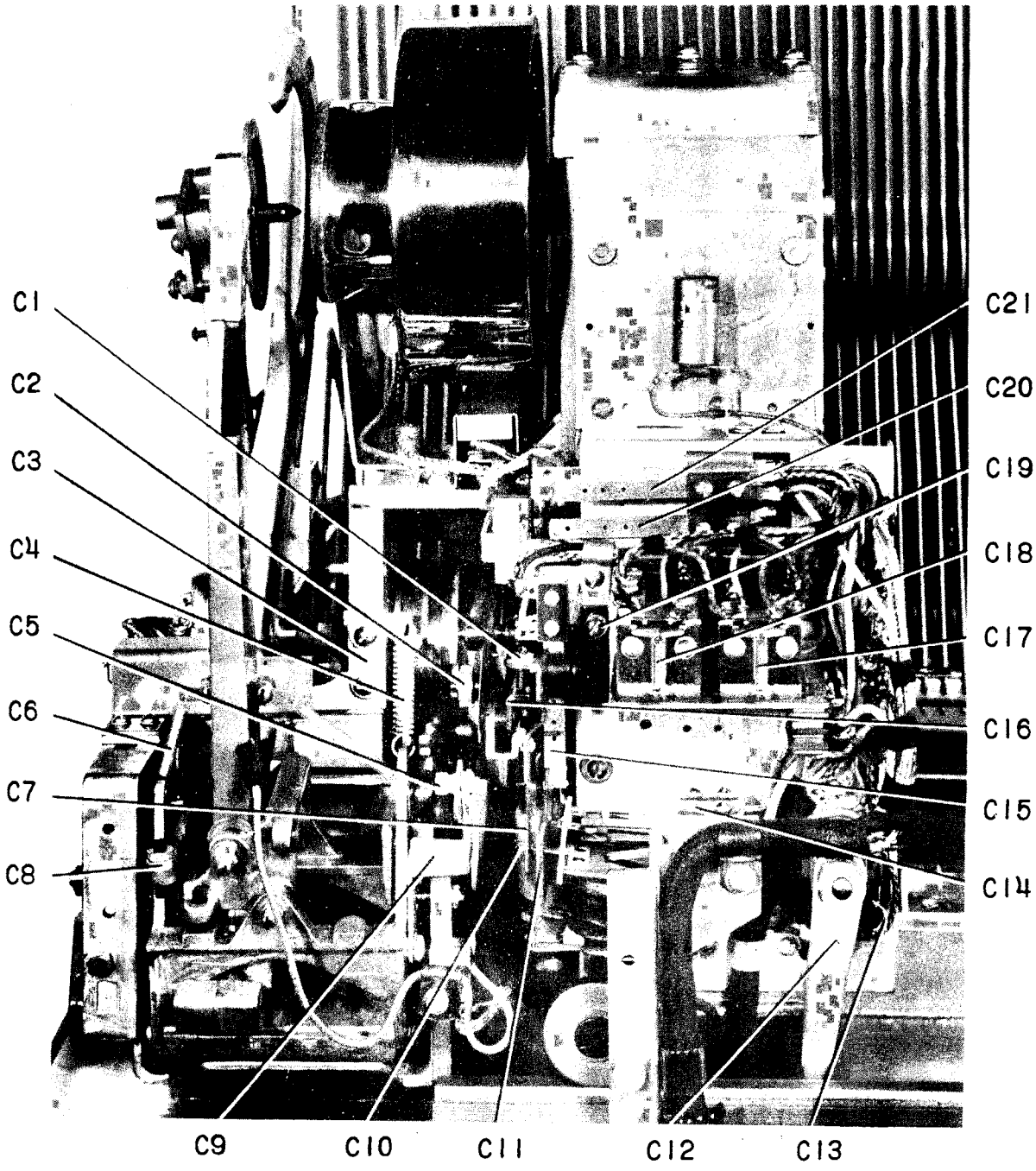


FIGURE C

CAM & LEVER VIEW

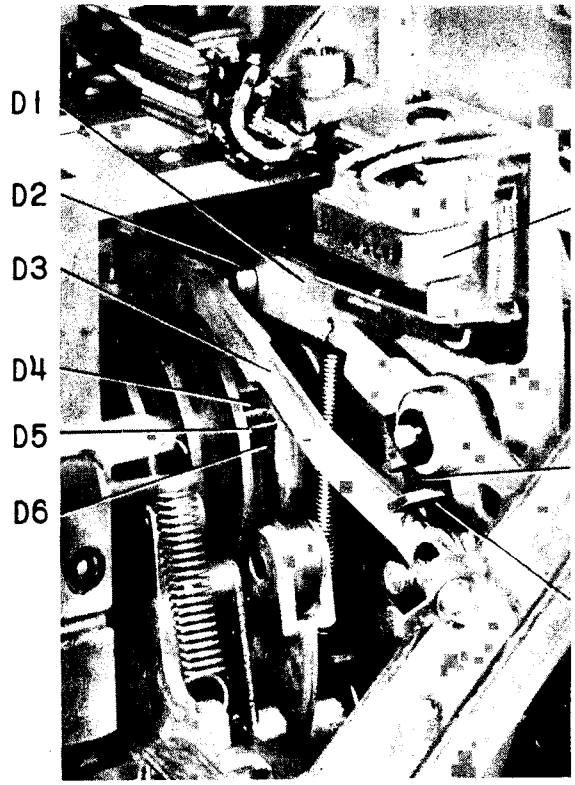


FIGURE D

CARRIAGE ASSEMBLY BOTTOM VIEW

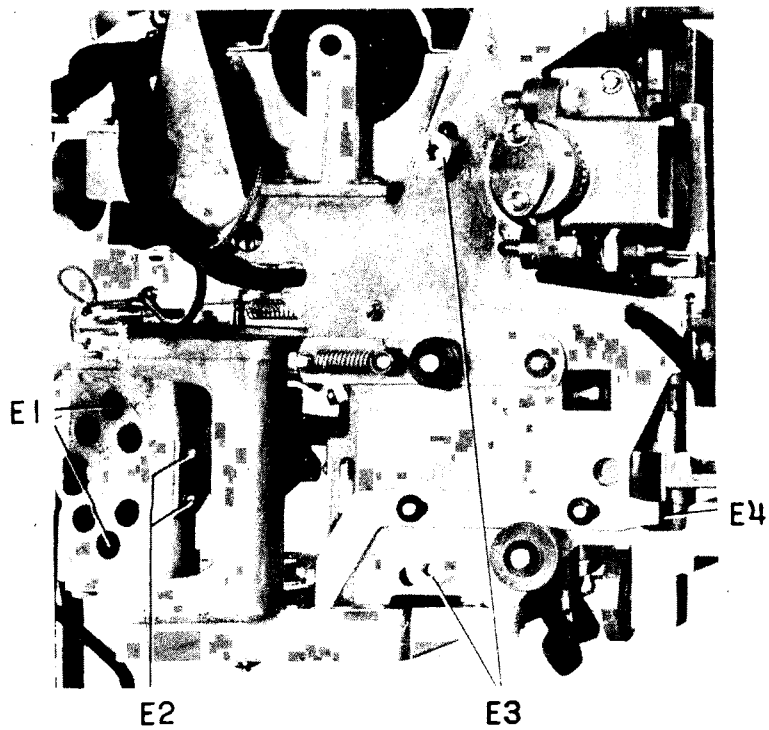


FIGURE E

CRADLE ASSEMBLY

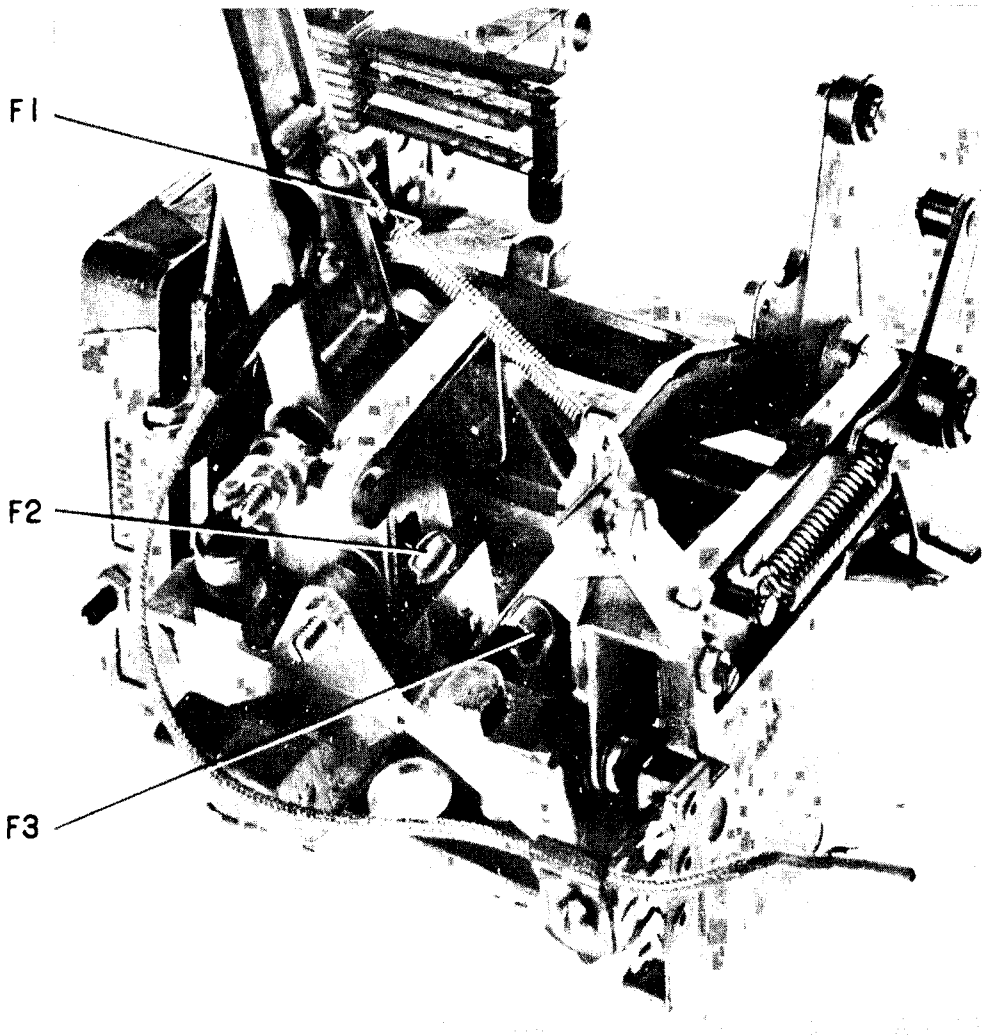


FIGURE F

SAFETY TRIP ASSEMBLY

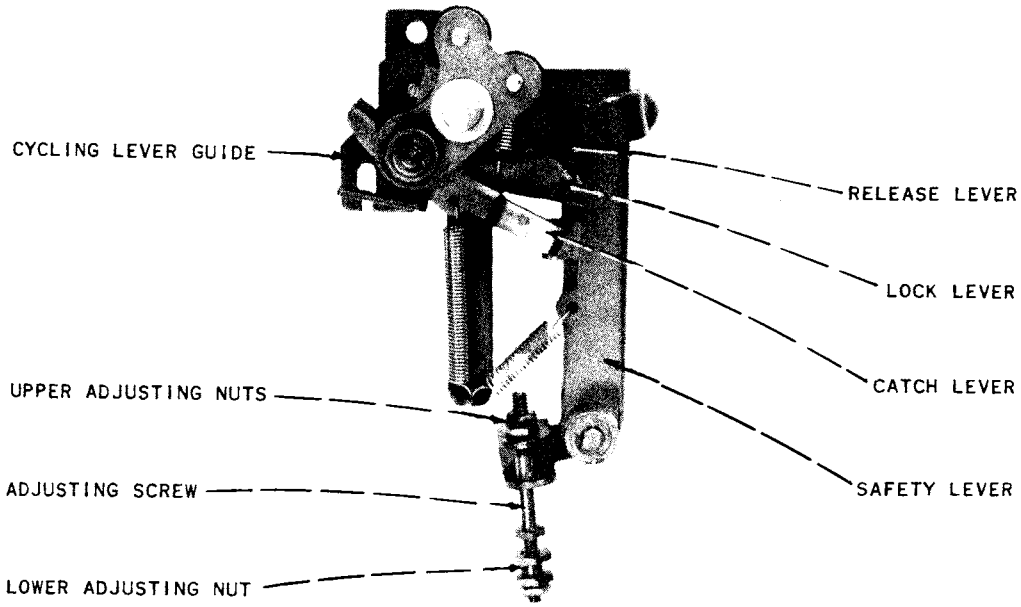


FIGURE G.

CAM ASSEMBLY

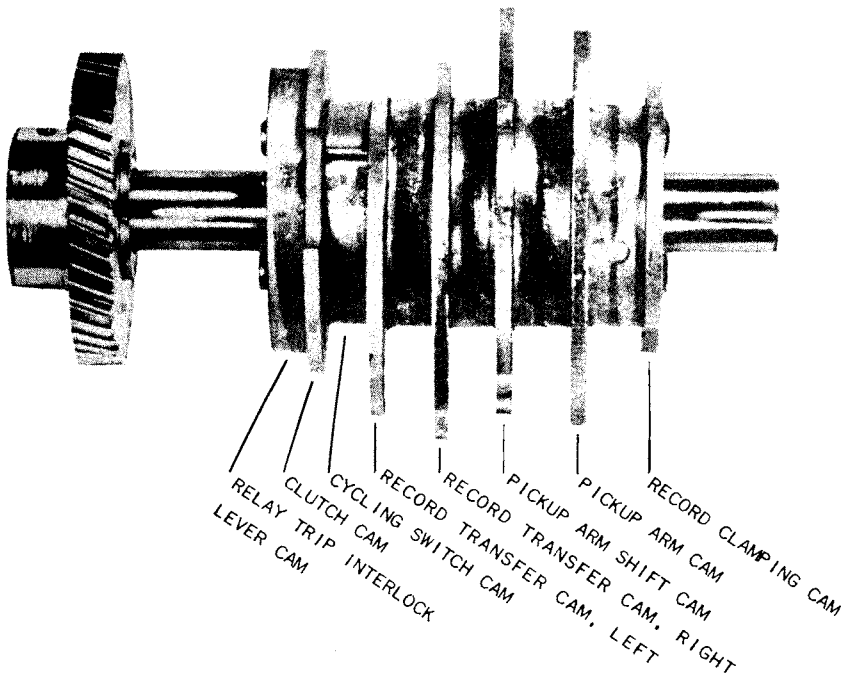


FIGURE H.

LEVER PLATE ASSEMBLY

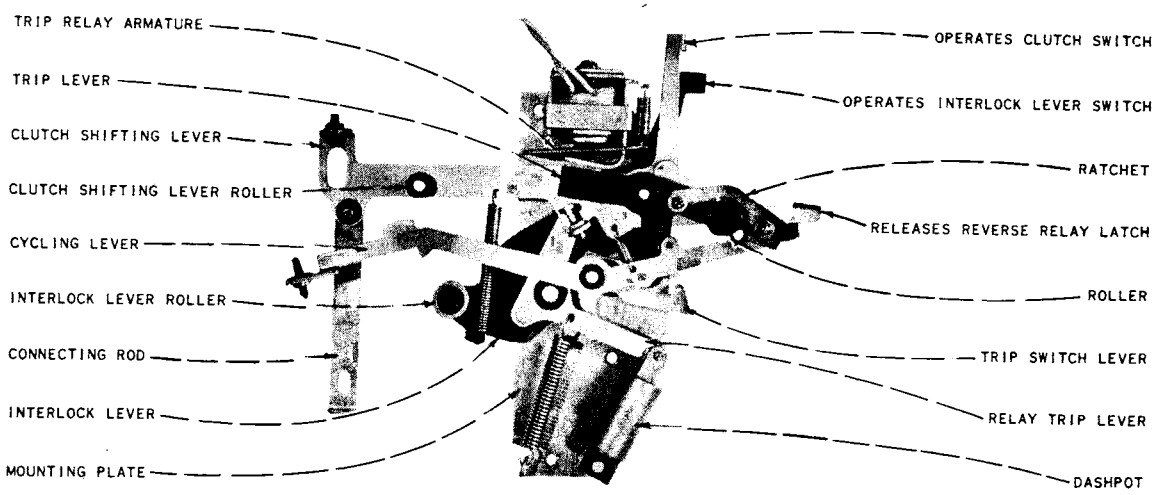


FIGURE I.

CLUTCH HOUSING ASSEMBLY

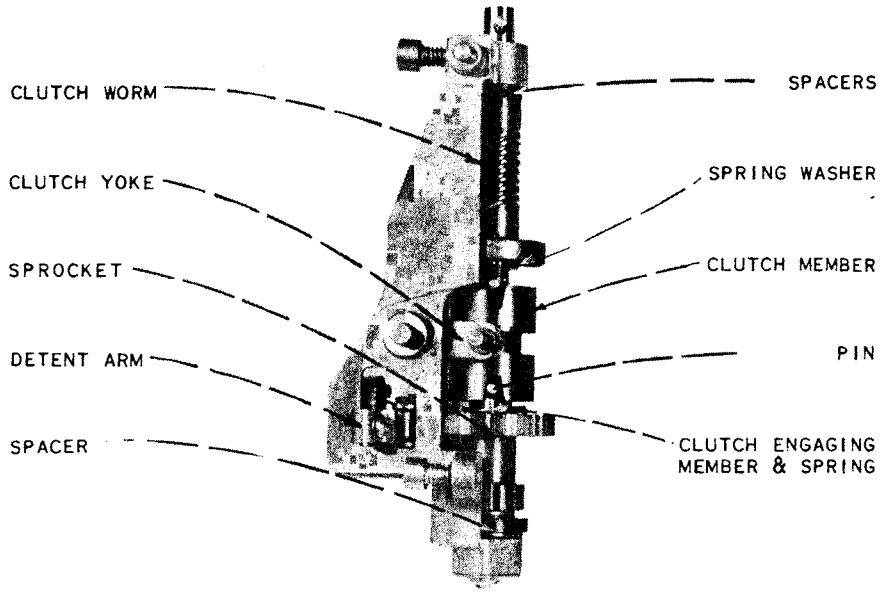


FIGURE J.

LUBRICATION INSTRUCTIONS

Every 6 months lubricate the following points with the lubricant and the amount specified below:

1. Use Stanodrip #29 (Standard Oil Co.) or SAE #20 oil to lubricate the Gear Box. The quantity of oil to be applied through the oil hole, on top of the Gear Box, should be only enough to saturate the felt oil pad inside the Gear Box. This means, filling the oil hole approximately 3 times.

2. Use SAE #10 oil (two drops) to lubricate the Trip Switch Latch Lever bearing.

3. Use SAE #20 oil (one drop) to lubricate each of the Pickup Arm and Cradle Assembly pivot bearings.

4. Use SAE #20 oil to saturate Felt Oiler Pad on upper Motor bearing, and to fill the Oil Cup on the lower Motor bearing.

5. Use SAE #20 oil (two drops) to lubricate the Pivot Block and Clamp Arm Disc Assembly.

6. Use SAE #20 oil (two drops) to lubricate each of the following parts of the Clutch Housing Assembly, the Clutch Bearing Blocks, the Clutch Shaft (accessible above and below the Clutch Member), the Detent Roller and the Washers on each side of the Clutch Worm.

7. Use Graphite Grease to lubricate the spring on the Clutch Engaging Member and Spring Assembly.

8. Use Graphite Grease to lightly coat the latching surfaces of the Trip Lever and the Latch Bar on the Trip Relay Armature.

9. Use Lubriplate, sparingly, on all sliding surfaces and pins which are not bearing surfaces.

CAUTION: DO NOT LUBRICATE THE GEAR RACK.

ADJUSTMENTS

In the following information reference is made to symbols associated with the names of the parts of the Select-O-Matic "100" Mechanism. These parts may be identified from the illustrations appearing on pages 2055 to 2061 inclusive.

I. REMOVAL OF CARRIAGE ASSEMBLY FROM BASE

Do Not Remove the Record Magazine when removing Carriage Assembly.

To remove the carriage assembly from the base, proceed as follows:

a. With the carriage assembly in the scan position, manually rotate the flywheel until the carriage is at the limit of travel to the right.

b. Remove the blank extension of the gear rack at the left, the left reversing switch stop bracket, and the left rubber bumper.

c. Remove the hook which supports the cable at the front of the carriage assembly and the cable clamp at the rear left.

d. Remove the record playing indicator light sockets, the ground wire connecting to the indicator block, and remove the indicator block and strip from the magazine by taking out the four screws at the ends of the chrome strip.

e. Remove the flat metal plate fastened to the base *beneath* the carriage assembly by taking out the plate holding screws and, with the carriage at the extreme right, sliding the plate from under it.

f. Remove the right eccentric stop (E-3).

g. Remove the selector block drive bracket by taking out the bracket adjusting screws. (Figure 9, Page 2090).

h. With the carriage at the right, slide the selector contact block from its guide rails at the right end of the solenoid assembly. Remove the outer clamp holding the cable to the contact arm to avoid strains on the cable or block.

i. Manually rotate the flywheel counterclockwise moving the carriage to the left until the contact arm is approximately 1" from the left magazine bracket and the spring loaded roller on the bottom of the carriage has cleared the end of the gear rack by approximately 1/2".

j. Remove the carriage assembly by pushing back toward the magazine to disengage the drive pinion and gear rack and lifting up with a forward tilt. Care must be used to avoid damage to the transfer arm by striking the head against the magazine.

II. INSTALLING CARRIAGE ASSEMBLY ON BASE

When installing the carriage assembly on the base, reverse the procedure outlined in paragraphs above. *It should be replaced in such a manner that the Transfer Arm will travel through the center of the record spaces of the magazine when in transfer condition.* If the pinion and gear rack are incorrectly meshed (one tooth off) the Carriage Assembly will be detented 5/32" from normal position and the Transfer Arm will strike a separator plate of the magazine.

To correct this condition, disengage the pinion from gear rack by moving to the open section and re-engage them one tooth from their previous position. In this condition the Transfer Arm should always travel through the center of the record spaces when in transfer condition.

With the carriage assembly properly located on the gear rack, re-install the blank rack section and the two Eccentric Stops, E-3. The Stops should be adjusted to clear the Gear Rack by .010" max.

IMPORTANT NOTE: Should occasion arise necessitating replacement or adjustment of the Solenoid Assembly, the Selector Contact Block, the Reversing Switch, C-13, or changing the setting of the Reversing Switch Operating Lever, C-12, it may require a readjustment of the Reversing Switch Stop

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Brackets, and the Rubber Bumper Stop Brackets located on the base. Adjustments should be made in the following sequence:

A. REVERSING SWITCH LEVER, C-12

The Reversing Switch Lever should be positioned on the Reversing Switch Shaft so it has equal throw on either side of a vertical centerline through the Reversing Switch Shaft.

B. REVERSING SWITCH STOP BRACKETS

The left hand bracket should be positioned so it operates the reversing switch when the carriage has moved the centers of the "L" and "R" contacts on the contact block 3/8" to the left of the centers of the A-1 and A-2 selection levers. The right hand bracket should be positioned so it operates the reversing switch when the carriage has moved the centers of the "L" and "R" contacts 3/8" to the right of the centers of the K-9-K-10 levers

Adjustment of the bracket positions may be made as follows:

1. Loosen the screws holding the reversing switch stop brackets and move the brackets outward (away from each other) to the limit of the slotted holes.
2. Move the A-1 and A-2 (and the K-9 and K-10) selection levers to the play position.
3. Position the carriage (and the contact block) where the "L" and "R" contacts are lifted a maximum by the levers.
4. Make a reference mark, on the contact block guide rail, of the contact block position.
5. Using the reference mark, manually move the carriage (and contact block) to the position at which the reversing switch is to operate. This position will be 3/8" to the left of the A-1 and A-2 levers and 3/8" to the right of the K-9 and K-10 levers.
6. With the carriage position established, slowly move the reversing switch stop bracket to the position where it operates the switch.
7. Manually move the carriage away from the bracket and tighten the bracket screws without changing the position of the bracket.

C. RUBBER BUMPER STOP SETTING

The rubber bumpers may be adjusted as follows:

1. Loosen the screws holding the bumper brackets -- at both ends of the carriage travel -- so the bumpers may be moved. Set both bumpers outward (away from each other) to the limit allowed by the slots in the brackets. Leave the screws loose enough to permit movement.
2. After adjusting (or checking) the reversing switch stop brackets, manually place the carriage at the point where the reversing switch operates.
3. Move the associated bumper so it touches lightly against the carriage.
4. Move the carriage away from the bumper and tighten the bumper bracket screws without changing the position of the bracket.

III. REPLACING MAGAZINE

When replacing the Magazine (*Magazine should not be removed except when damaged),* slotted holes in the Magazine Mounting Brackets permit limited lateral adjustment of the Magazine for exact centering of the Transfer Arm, Flywheel Face and the Record Chute B-4, with respect to the record spaces in the Magazine. Before making any adjustments on the Magazine position be sure the Transfer Arm is perpendicular to its mounting shaft and that it lifts a record in a plane parallel to the Flywheel Face.

IV. CARRIAGE ASSEMBLY MECHANICAL ADJUSTMENT

Refer to illustrations on pages preceding these adjustments.

Before making adjustments 1 to 10, unlock set screws, A-3, A-5, A-8, A-13, A-14, and D-8 and back them out to the limit of their travel. Unlock the adjusting nut, A-16, and move it upward to the limit of its travel. The locknuts, A-17, should be loosened and moved to the top of the screw. The Safety Trip Stop, A-20, should be moved to the limit of its travel to the right.

The first ten adjustments and some of the other adjustments are related in a manner that requires a definite sequence of adjustment. This sequence of adjustment should be followed for initial adjustment and for checking. When each adjustment has been completed, solidly lock the associated screw or locknut.

ADJUSTMENT #1

CLUTCH SHIFTING LEVER - INTERLOCK LEVER SCREW, D-8

This adjustment is made under the following conditions:

(a) Carriage Assembly in *Scan* position.

(b) Cycling Switch Lever, D-3, resting on peak of lobe, D-5. This lobe is adjacent to Detent, D-4.

(c) Clutch Shifting Lever, A-4, Clutch Yoke Lever, A-11, and Clutch Member, A-9, should be perfectly free of binds on their associated shafts or bearing pins.

(d) Trip Lever is latched back of the Lock Plate on the armature of the Trip Relay, D-9, so the Trip Lever Spring is charged.

(e) Clutch Shifting Lever Roller, D-2, is down in the Scan notch of the Clutch Cam.

(f) Clutch Member, A-9, should be fully engaged with the Sprocket Pin.

After the above conditions have been met, turn screws, D-8, on Clutch Shifting Lever, D-1, until it just touches the ear of the Interlock Lever, D-7. Lock it in this trial adjustment position. Unlatch the Trip Lever by manual operation of the Trip Relay and align the Clutch Worm Pin with one of the two upper notches in the Clutch Member. (The Clutch Worm, A-6, should not be permitted to move the Cam Assembly while this check is being made).

The adjustment of screw, D-8, should result in a 1/32" *minimum* engagement of the Clutch Worm Pin and the Clutch Member when they are aligned as noted above and when condition (C) is properly met. If a 1/32" *minimum* engagement is not attained by the first trial adjustment, turn screw, D-8, 1/8 additional turn clockwise. Check again for a proper 1/32" *minimum* engagement between the Clutch Worm Pin and the Clutch Member.

After screw, D-8, is adjusted as above, return the Clutch Member to Scan position by charging Trip Lever Spring and Latching Trip Lever under Trip Relay Armature. In this position the Clutch Member should again fully engage the Sprocket Pin. If this condition is not fulfilled, screw, D-8, has been turned in too far. Check for binds as noted in condition (C) and readjust screw, D-8.

ADJUSTMENT #2

YOKE LEVER SCREW, A-14

In Scan position, adjust screw, A-14, in the Yoke Lever so there will be 5/64" lateral movement of the end of the Detent Arm, A-12, when the peak of a sprocket tooth is centered on the Detent Roller.

When the adjustment has been completed, manually operate the trip relay so the roller is bearing against the peak of the sprocket tooth. In this position there should be a minimum of 1/32" engagement of the clutch with the pin in the sprocket. If less than 1/32" engagement is had, turn screw, A-14, inward as required until 1/32" engagement is had.

ADJUSTMENT #3

CAM FOLLOW ARM SCREW, A-8

Unlatch the Trip Lever by manual operation of the Trip Relay and slowly turn the Flywheel *counter-clockwise* until the Clutch Member, A-9, engages the pin on the Clutch Worm, A-6. Continue rotation of the Flywheel until the Cam Assembly has turned approximately 150 degrees, and the edge of the Roller, D-2, on the Clutch Shifting Lever, D-1, is within 1/8" of the edge of the next notch in the Clutch Cam. (1/8" from the Play Position Notch).

In this position adjust screw, A-8, in the Cam Follow Arm, A-15, by turning it downward until there is a maximum lateral movement of 1/32" of the carriage on the Gear Rack. Carriage must have this slight lateral movement in order to be certain that no strains are set up.

Care should be taken to avoid tightening of screw, A-8, to a degree where strains will be set up in the Cam Follow Arm and the Yoke Lever.

ADJUSTMENT #4

CLUTCH SHIFTING LEVER - CATCH LEVER SCREW, A-3

Manually unlatch the trip relay and turn the flywheel counter-clockwise until the clutch shifting lever roller is 1/8" from the scan position notch of the clutch cam. With the cam assembly in this position, adjust screw A-3, in the Clutch Shifting Lever to provide 1/64" to 1/32" clearance between the latching surfaces of the Catch Lever, A-21, and the Release Lever, A-19. When this adjustment is being made, be sure the Release Lever is fully seated in the notch of the Lock Lever, A-2.

ADJUSTMENT #5

CYCLING LEVER SCREW, A-5

Be sure Cycling Lever, D-3, moves freely in its guide on the safety trip assembly. This guide can be shifted by loosening the screws, and shifting the Cycling Lever Cuide so the Cycling Lever moves freely and is centered between the end of the roller stud on the clutch shifting lever and the left record transfer cam. Turn the Flywheel counter-clockwise until the Clutch Shifting Lever Roller centers over the Scan position notch of the Clutch Cam and the Cycling Lever, D-3, raises and centers on the Scan Lobe, D-5, of the Cycling Lever Cam.

In this position apply a moderate upward pressure on the Release Lever Assembly at the point where the Lower Adjusting Nut, A-16, would normally drive the Safety Lever, A-18. With this upward pressure applied to the Safety Lever, A-18, turn screw, A-5, in the Cycling Lever Assembly until it drives the right hand side of the Lock Lever Assembly, A-2, down just far enough to permit the Release Lever, A-19, to move clockwise and unlatch the Catch Lever, A-21. At this point turn screw, A-5, in, an additional 1/2 to 5/8 turn and lock in this position.

ADJUSTMENT #6

SAFETY TRIP ASSEMBLY - SCAN POSITION, A-16

Unlatch the Trip Lever by manual operation of the Trip Relay and slowly turn the Flywheel counter-clockwise until the Cam Assembly is in Scan position with Scan Lobe, D-5, under the "V" point of the Cycling Lever, D-3, (In Scan position, the release lever, A-19, is operated by the flat springs on the adjusting nut, A-16, through the shoulder on the lower part of Screw and the Safety Trip Lever, A-18.)

The Lower Adjusting Nut, A-16, should be moved downward until the Flat Springs are deflected downward approximately 1/16" and have enough tension to pull the Release Lever, A-19, away from the Catch Lever, A-21, If the Catch Lever is not released, additional tension of the Flat Springs should be obtained by a lower position of the Lower Adjusting Nut, A-16, on the Screw. The Adjusting Nut should be locked with the locknut.

CAUTION: If any change is made in the adjustment of the Lower Adjusting Nut, A-16, the Upper Adjusting Nuts, A-17, must be

changed to accommodate the change in effective length of the adjusting screw. See Adjustment #7.

ADJUSTMENT #7

SAFETY TRIP ASSEMBLY - PLAYING POSITION A-17

NOTE: This adjustment should be made in the 12" playing position with the Transfer Arm and Record Chute properly established for a 12" record. (See Adjustment #16).

In playing position, the Release Lever, A-19, is operated by the Flat Springs on the Adjusting Nut, A-16, the Screw and the Upper Adjusting Nut, A-17.

The Upper Adjusting Nuts, A-17, should be moved down until the Flat Springs are deflected approximately 1/16" and have enough tension to pull the Release Lever, A-19, away from the Catch Lever, A-21. If the Catch Lever is not released, additional tension of the Flat Springs should be obtained by a lower position of the Upper Adjusting Nuts, A-17.

ADJUSTMENT #8

CLUTCH MEMBER - PLAYING POSITION, A-13

The adjustment screw, A-13, in the detent lever, A-12, should be backed off, so its point is almost flush with the detent lever. Turn the Flywheel clockwise, going into playing position for the left side of record. Push down on front end of Clutch Shifting Lever, A-4. This will cause the cam assembly to rotate an additional amount, and increase the clearance between the pin in the clutch worm, A-6, and the top of the Clutch Member, A-9. After taking out all end play of clutch shaft and worm in the down direction, adjust the screw, A-13, in the detent lever to raise the clutch member so there is a .005" min. to .010" max. gap between the upper surface of the clutch member and the end of pin in the clutch worm gear. This adjustment screw should then be locked in position by its lock nut.

NOTE: This gap may be greater when the flywheel is turning counter-clockwise due to the direction of thrust and end play in the Clutch Worm, but it should not be more than .010" when the Flywheel is turning *Clockwise*.

ADJUSTMENT #9

STRIPPER PLATE, A-23

The circular surface of the Stripper Plate, A-23, should be parallel to the record surface of the Flywheel and should be spaced so it is 1/4" from the Flywheel face. This adjustment can best be made with a 1/4" thick disc clamped on the Flywheel face, or can be checked roughly, if necessary, by placing the edge of a scale against the Flywheel face and sighting along the Stripper Plate face for the proper clearance. If the latter method must be used, it should be checked at several points around the Flywheel face.

NOTE: Any change of position of the Stripper Plate necessitates a check and possible readjustment of the Safety Trip Stop, A-20, and the Clamp Arm Switch, B-3. Refer to Adjustment #10 for correct adjustment of the Safety Trip Stop. Refer to adjustment of Clamp Arm Switch. The screw, B-2, is used in conjunction with the adjustment of the Clamp Arm Switch, B-3.

ADJUSTMENT #10

SAFETY TRIP STOP, A-20

Turn the Flywheel counter-clockwise until the Carriage Assembly is about to enter Scan position and the Cycling Switch Lever is about to trip the Safety Trip Assembly. At this point adjust the Safety Trip Stop, A-20, for a 1/32" clearance between it and the tip of the Safety Lever, A-18. This adjustment can best be checked with a 1/32" shim. The Safety Trip Assembly is latched up while making this adjustment.

After the above adjustment is made, check as follows:

With the 1/32" shim held between the Safety Lever, A-18, and the Safety Trip

Stop, A-20, the Safety Trip Assembly *should not trip in Scan position.* When the shim is removed and Scan position is reached by the Carriage Assembly, the Safety Lever, A-18, will be permitted enough movement, due to removal of the 1/32" shims plus the hole in the Safety Trip Stop, to allow the lower projection of the Safety Lever to drive the Release Lever clockwise thus unlatching the Catch Lever, A-21, permitting the Clutch Shifting Lever to move toward Scan position.

IMPORTANT NOTE: The above adjustment is one of the safety features of the Select-O-Matic Mechanism. Its purpose is to prevent the Carriage from going into Scan condition if a badly warped record fails to be returned completely into the Magazine after being played. The Stop is effective only when an abnormal condition prevails. It is possible to misadjust the Stop but still have *normal operation with normal records.* If a warped record should fail to fully return to the magazine, the carriage could scan if the Stop were incorrectly adjusted and result in broken records. It is important, therefore, to properly make and check this adjustment if any changes in Stripper Plate positioning are made or if any adjustments are made on the lower Adjusting Nuts, A-16, of the Safety Trip Assembly.

If this adjustment is correctly made and a warped record fails to return to the Magazine after being played, the Carriage will not enter Scan condition. Instead, the record will be transferred back to the Flywheel, will be played again, and the Carriage will make another attempt to return the record to the Magazine. This process will continue until the record is returned completely into the Magazine to permit the Carriage to go into the Scan condition in a normal manner.

ADJUSTMENT #11

RECORD GUIDE PLATE, A-22

The upper left-hand side of the Record Guide Plate, A-22, should be positioned so it is 1/64" to 1/32" to the right of, and parallel to, the record surface of the Flywheel. This adjustment can be checked by clamping a flat disc or record on the Flywheel and checking the clearance with a feeler gage.

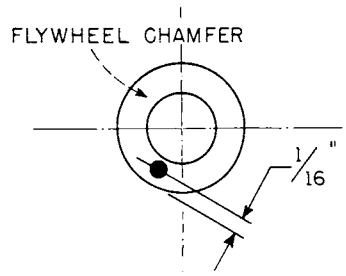
If the Record Guide Plate is too far to the right of the Flywheel face, it will be possible for a record to jam against the side of the Flywheel instead of passing smoothly up to playing position.

If the Record Guide Plate is too far to the left, records may rub against it while in playing position.

ADJUSTMENT #12

RECORD CENTER PIN

The position of the Record Center Pin is established in a lateral and vertical direction by the two adjusting screws, B-20, which bear against the back of the Record Clamp Disc, B-1. Adjust the two screws so the tip of the Record Center Pin engages the chamfer on the Flywheel at about a 7 o'clock position half way along the width of the chamfer as shown in the figure below. (This will be about 1/16" up the chamfer as measured from the outer edge of the chamfer).



The Record Clamp Disc and Pivot Assembly should operate freely and should always permit the Record Center Pin to return to its normal position after it has been completely withdrawn from the Flywheel face. Proper pin engagement with the Flywheel hole can be established by moving Adjusting Block, B-21, if free operation is not attained when the 7 o'clock adjustment is correctly made. If the Adjusting Block position is changed it will require a readjustment of the Record Center Pin.

NOTE: A change of the adjustment of the point of contact of the center pin with the chamfer should be followed by a check of Adjustment #14.

ADJUSTMENT #13

ECCENTRIC SCREW, B-10

NOTE: A change of the position of the Eccentric Screw will change the position of the Gear Segment Spring. Adjustment #6 and #7 should be rechecked.

The Eccentric Screw should be adjusted only after the cam assembly and transfer arm are pre-set according to instructions given in the following paragraph. Adjustment of the screw after pre-setting the cam assembly and arm will result in positive clearance of records by the transfer arm head when the carriage assembly is scanning.

Unlatch the Trip Lever by manual operation of the Trip Relay and rotate Flywheel *clockwise* until the play position is reached (left side of a record). Unlatch the Trip Lever again and continue turning the Flywheel in a *clockwise* direction. While the transfer arm is moving downward, hold up on the right hand end of the Catch Lever (of the Safety Trip Assembly) so it fails to support the clutch shifting lever. This will permit the roller on the clutch shifting lever to roll into the scan position notch of the clutch cam and cause disengagement of the clutch member and the clutch worm before the cam assembly has turned to the normal Scan position. It is in this position of the cam assembly and the transfer arm that the Eccentric Screw is adjusted.

Unlock the Eccentric Screw by loosening the locknut at the left of the cam follow arm, A-15, and the set screw in the cam follow arm and turn the Eccentric Screw, B-10, so the transfer arm head clears, by 1/64", the lower edge of a 10" record in the magazine. Lock the Eccentric Screw in this position. Repeat the pre-setting procedure and check the adjustment. Readjust if necessary.

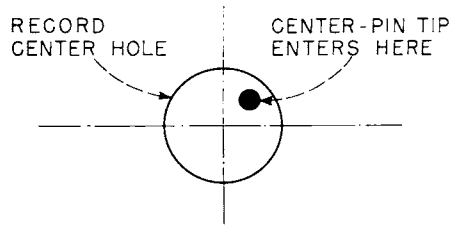
Check the upward travel and playing position of the transfer arm. Its minimum upward travel should be sufficient to position a 10" record for engagement by the record center pin before the clamp arm starts movement toward the record.

If, for any reason, the Transfer Arm is removed from the Carriage Assembly it must be replaced with its gear teeth matched properly to the Gear Segment so both of the above conditions can be met.

ADJUSTMENT #14

10" ADJUSTMENT SCREW, B-8, AND 10" ADJUSTMENT PLATE, B-5

NOTE: Before this adjustment is made, the position of the tip of the Record Center Pin should be properly established so it engages the Flywheel chamfer at the lower left hand side (as described in Adjustment #12).



The 10" Adjustment Screw, B-8, and the 10" Adjusting Plate, B-5, should be adjusted so the tip of the Record Center Pin enters the Record Center Hole of a nominal 10" record at the upper right hand side of the hole as shown in the figure above.

If desired, the above adjustments can be made by use of a 6" scale. With the Transfer Arm in its 10" record position and the Record Center Pin in a position where it has moved toward the Flywheel chamfer but has not yet engaged it, the dimension from the tip of the Record Center Pin to the Transfer Arm Head should be 5" and the dimension from the tip of the Record Center Pin to the Record Chute, B-4, on a perpendicular to the chute, should be 4-15/16". These dimensions should be checked for proper engagement of standard 10" records. (If difficulty is encountered with making this adjustment, refer to Adjustment #12 to be sure it is correct).

ADJUSTMENT #15

CHUTE OPERATING LOCK LEVER SCREW, B-6

To adjust the Chute Operating Lock Lever Screw, B-6, transfer a 10" record manually

out of the Magazine up to the "crossover point". This is the point at which the upper end of the Record Chute is still in its highest position, but any more upward movement of the 10" record would cause the chute to tilt to normal position. At this point turn the Chute Operating Lock Lever Screw, B-6, clockwise until the face of the Record Chute Lock Lever, B-9, just touches the latching face of the 10" Adjustment Plate, B-8. Tighten lock nut. At this point the lower edge of the Chute Operating Lock Lever should still be touching the upper cam face of the Transfer Arm. Check with 10" and 12" records.

The above adjustment establishes the timing of the Lock Lever Assembly in such a manner that the Record Chute Lock Lever positively engages the 10" Adjustment Plate just before a 10" record has travelled far enough to tilt the Record Chute. This also results in a failure of the Record Chute Lock Lever to engage the 10" Adjustment Plate when a 12" record is being transferred thus properly positioning the Record Chute and the Transfer Arm for a 12" record.

ADJUSTMENT #16

RECORD CHUTE BRACKET, C-3 AND 12" ADJUSTMENT SCREW, B-7

The Record Chute Bracket, C-3, and the 12" Adjustment Screw, B-7, should be adjusted so the tip of the Record Center Pin enters the Record Center Hole of a nominal 12" record at the upper right hand side at the same point shown in Adjustment #14 for 10" records.

If desired, these adjustments can be made by use of a 6" scale. With the Transfer Arm in its 12" position and the Record Center Pin in a position where it has moved toward the Flywheel chamfer but has not yet engaged it, the dimension from the tip of the Record Center Pin to the Record Chute, on a perpendicular to the Chute, should be 5-15/16". This dimension is established by adjustment of the Record Chute Bracket. The dimension from the tip of the Record Center Pin to the Transfer Arm Head should be established at 6" by adjustment of the 12" Adjustment Screw. These adjustments should be checked for proper engagement of standard 12" records.

ADJUSTMENT #17

PICKUP ARM CRADLE AND BEARING ASSEMBLY

1. The Operating Bar, E-4, which is operated by the lower cam face of the Transfer Arm, is adjusted to be pulled forward only when the Transfer Arm is brought up to its 10" *Play* position. In this position the Operating Bar moves forward and its rear projection causes the Release Lever, B-13, to move down and unlatch the Booster Spring Plate, B-16. Adjustment of the Operating Bar to meet this condition is made by bending the vertical portion of the Operating Bar, E-4, where it contacts cam face of Transfer Arm. The Pickup Arm and Cradle Assembly then moves on its pivots and is stopped by screw, B-14, **properly indexing the Pickup Stylus for engaging the lead-in groove of a 10" record.**

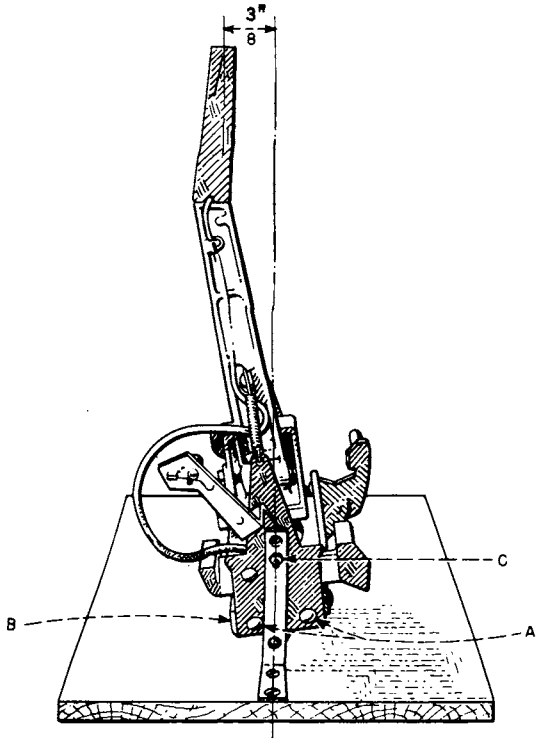
   When the Transfer Arm is brought up to its 12" *Play* position, the Operating Bar is not moved, therefore, the Release Lever remains latched with the Booster Spring Plate. In this position the proper indexing of the Pickup Stylus for engaging the lead-in groove of a 12" record is determined by the position of the 12" Adjusting Lever, B-17, and is adjusted by its associated screw. This adjustment is made later under Adjustment #19.

2. The *Complete* Pickup Arm and Cradle Assembly, with the Pickup Cartridge, should be balanced in the following manner:

   a. Remove the Pickup Arm and Cradle Assembly be removing the pickup lead at the terminal and loosening the pivot screws that support this Assembly in the Pickup Arm Bracket Casting Assembly. Install the Pickup Arm and Cradle Assembly in the Pickup Arm Cradle balance fixture as shown in the sketch.

      CAUTION: The Pickup Arm and Cradle Assembly *should be complete with all*

parts and the pivots (C) correctly adjusted for free movement of the assembly.



LEFT SIDE VIEW OF CRADLE ASSEMBLY

b. Loosen the two screws, A, on each side of the cradle that hold the counterweight and shift the counterweight to a position that will balance the assembly with the stylus points 3/8" from a vertical line through the pivot bearing, C, as shown in the sketch. Tighten the screws, A, that hold the counterweight in this position. This position of equilibrium of the Pickup Arm *and Cradle* is equivalent to its position for engagement of the stylus within the first playing grooves of a 10" record.

c. Install Pickup Arm and Cradle Assembly in the Pickup Arm Bracket Assembly.

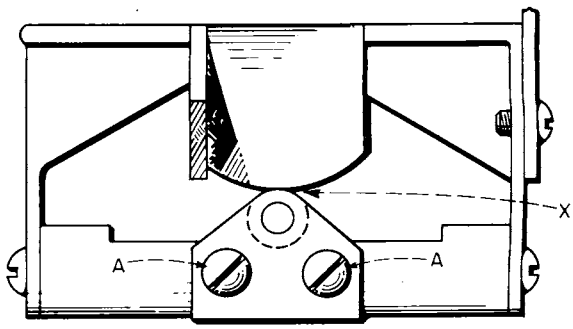
ADJUSTMENT #18

PICKUP ARM TRANSFER ROLLER, F-3, ADJUSTMENT

1. The Pickup Arm is transferred from *Left to Right,* or vice versa, by the detents in the Pickup Arm Shift Cam operating the Bell-Crank to move the Pickup Arm Shifting Lever. The Pickup Arm Shifting Lever has a notch which engages an extension plate on the Pickup Arm Counterweight effecting the actual transfer of the Pickup Arm from one side of the record to the other.

   CAUTION: Be sure there are no binds between any levers.

2. To adjust the Pickup Arm Transfer Roller it will be necessary to remove the complete Pickup Arm Bracket Assembly, B-15, by removing the four allen-head cap screws, B-11, the Control Lever Spring, C-4, and disconnect the Pickup leads. Before removing this assembly, check stylus force against a record, both *Left* and *Right* sides, to be sure it is within the limits of 22 ± 2 grams (see Adjustment #24). Gently ease the Assembly to the rear. With the unit out, loosen the two screws marked, A, in the sketch below.



   Center the Pickup Arm vertically over the roller and adjust the roller so there is light surface contact only with the Pickup Arm counterweight (point "X" in sketch). The contact should be light enough to avoid perceptible flexing of the rubber bushings of the tone arm pivots. Tighten the screws in this position.

   NOTE: Center the Pickup Arm over the roller by shifting the yoke. *Do not* center by holding the Arm because the rubber bushings at the pivot screws will be distorted and result in an incorrect adjustment of the roller for normal operation.

3. Reassemble the Pickup Arm and Bracket Assembly into the carriage.

ADJUSTMENT #19

CONTROL LEVER ADJUSTMENT SCREW, C-8

1. With the carriage assembly in the *Transfer* position and the Control Lever Roller just outside the detent in the Pickup Arm Cam, press down lightly on the Pickup Arm Cradle so the Pickup Arm is moved to the limit of its travel away from the flywheel.

2. In this position of the Cradle, adjust screw, C-8, on the Control Lever until it holds the Pickup Cradle from moving inward when the downward pressure is released.

   CAUTION: Do not turn the screw farther than necessary to prevent motion of the Cradle on its pivots.

3. Back-off the screw 1/2 to 3/4 turn and lock the screw with the locknut.

   NOTE: Any change of adjustment of the control lever adjustment screw should be followed by a check of the pickup stylus clearance as outlined in Adjustment #23.

ADJUSTMENT #20

12" ADJUSTING LEVER, B-17

Adjust the 12" Adjusting Lever, B-17, for proper indexing of Pickup styluses with a 12" record. The styluses should engage both left and right side of a 12" record at a point 5-25/32" from the center of the record. On a normal record this will be about half way between the edge of the record and the first playing groove. Adjustment is made by loosening the screw on the 12" Adjusting Lever, positioning the pickup arm so the stylus is in the correct landing position and locking the 12" Adjusting Lever in this position.

ADJUSTMENT #21

10" ADJUSTING SCREW, B-14

Adjust the 10" Adjusting Screw, B-14, for proper engagement of Pickup styluses with a 10" record. They should engage both left and right side of a 10" record at a point 4-25/32" from the center of the record. On a normal record this will be about half way between the edge of the record and the first playing groove.

ADJUSTMENT #22

PICKUP ARM LOCK LEVER RELEASE ADJUSTMENT, C-6

Adjust the Lock Lever Adjustment Screw, C-6, so the Pickup Cradle Assembly is released after the stylus has engaged the record and the record has rotated at least 1/4 turn. This adjustment can be made on either side of either a 10" or a 12" record.

ADJUSTMENT #23

PICKUP STYLUS CLEARANCE ADJUSTMENT

When approaching the Playing Position, the Pickup Arm first moves parallel to the record until it is properly indexed by the 10" or 12" adjustments, then it moves toward the surface of the record. When leaving the Playing Position, the Pickup Arm moves the stylus away from the record before the control lever starts the arm toward the rest position. The clearance of the stylus from the record is adjusted for both left and right sides by adjusting the positions of the Pickup Arm Rollers, F-2, at the base of the Pickup Arm. The Rollers are adjusted with screws accessible through holes, E-1, in the cradle counterweight. The adjustment should be made and checked as follows:

1. With the carriage assembly in the playing position for the right side of a 12" flat (not warped) record, place the pickup arm so the stylus is 5-3/4" from the center of the turntable.

2. Unlatch the trip relay and manually turn the flywheel counter-clockwise until the adjusting screw, C-8, in the control lever *just touches* the pickup arm cradle casting. In this position of the control lever, the stylus should be lifted 5/16" to 3/8" from the record.

3. With the carriage assembly in the playing position for the right side of the record,

place the pickup arm so the stylus is 1-19/32" from the center of the turntable.

4. Unlatch the trip relay and manually turn the flywheel counter-clockwise until the adjusting screw, C-8, *just touches* the pickup arm cradle casting. In this position of the control lever, the stylus should be lifted a minimum of 1/16" from the record.

   NOTE: It will be necessary to hold the pickup arm at the 1-19/32" position or it will move toward the edge of the record when the stylus is lifted.

5. Repeat above for the left side of the 12" record and with clockwise operation of the flywheel.

ADJUSTMENT #24

STYLUS FORCE ADJUSTMENTS

With a record in playing position the stylus force should be adjusted to be 22 ± 2 grams (3/4 oz.). Adjust for both left and right side of record. These adjustments are to be made by means of the Movable Lugs, F-1, on the Pickup Arm.

CAUTION: The Movable Lugs, F-1, may interfere with the record chute (in 12" position) if they are moved above a horizontal position.

ADJUSTMENT #25

PICKUP BOOSTER SPRING ADJUSTMENT, B-18

The Pickup Arm Booster Spring, B-18, should be adjusted to apply a 8 to 12 gram force on the Adjustment Lever Pin just at the time the Pickup stylus is set on the record. This measurement is to be made by applying a gram gage to the Booster Spring (at a point at which it contacts the Adjustment Lever Pin) and raising the spring so that it is flush with the lower surface of the form on the Booster Spring Plate. Adjustment is made by bending the spring at a point near the lower holding clip on the booster spring plate.

ADJUSTMENT #26

VICTOR TRIP AND TRIP SHOE ADJUSTMENT

The shoe on the Trip Bracket, C-9, should be set so the trip switch lever is released when the stylus is 1-7/8" from the center of the record.

The Victor Trip-off may be checked by using a record with a Victor cut-off groove which does not go closer than 2" (or farther than 3") to the center of the record. The trip switch should then be operated by the Victor Pawl and not by the shoe on the trip bracket.

ADJUSTMENT #27

REVERSING RELAY LATCH LEVER, C-7

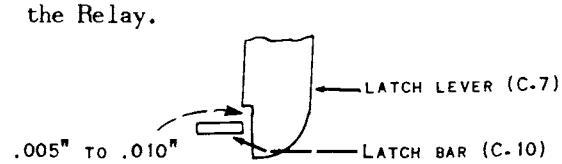
The Reverse Relay contacts should be checked for correct adjustment before the Reversing Relay Latch Lever is adjusted. (See Page 2082.)

1. With the carriage in *Play* position for left side of a record (either 10" or 12"), release the Trip Relay and turn the Flywheel in a *clockwise* direction until after the clutch member drops *toward Scan* Position. (The Clutch Member will be held from engaging the sprocket by the Clutch Engaging Member.)

2. Disconnect the 4-prong motor plug from the Selection Receiver.

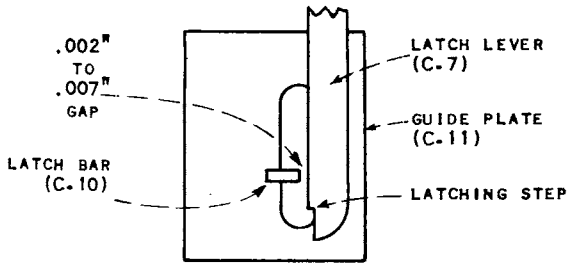
3. Energize the Reversing Relay by turning the Reversing Switch Lever, C-12, to the right.

4. Adjust the position of the Latch Lever, C-7, (by loosening the screws, C-19, holding the Lever pivot bracket) so there is .005" to .010" gap between the latching step on the Lever and the Relay Latch Bar, C-10, as shown below. This adjustment may be made by loosening the screws holding the Reversing Relay mounting bracket to the carriage frame and turning the Relay.



5. De-energize the Relay by moving the Reversing Switch Lever, C-12, to the left.

6. Adjust screw, C-1, in the Latch Lever so the Lever clears the Latch Bar .002" to .007" as shown below.



7. After adjusting screw, C-1, manually press the Relay Armature downward and toward the side of the slot in the guide plate, C-11, nearest the Relay Latch Lever. The Latch Bar must not catch on latching step.

8. Release the Trip Relay and manually press the Reverse Relay Armature so it is retained by the Latch Lever.

9. Rotate the flywheel clockwise so mechanism is in the *Play* position.

10. Check for minimum gap of 1/64" between the end of the adjusting screw, C-1, and the formed ear on the end of the Clutch Shifting Lever, C-16.

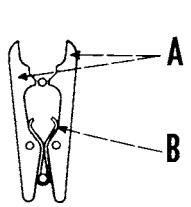
11. Release the Trip Relay and rotate the flywheel clockwise until the clutch member drops *toward Scan* position and is resting on the Clutch Engaging Member. In this clutch position, the Reversing Relay should unlatch.

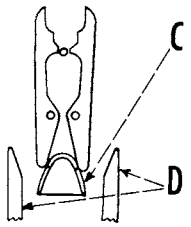
ADJUSTMENT #28

RECORD TRANSFER ARM HEAD AND ACTUATING SPRING

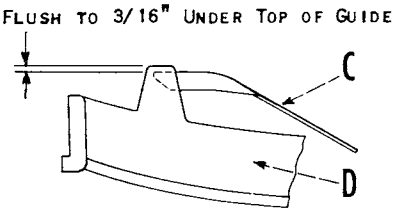
1. In record playing position of the transfer arm, the levers, A, are to be open to their maximum travel. The spring, B, should be formed so approximately 1/4 oz. pressure at the upper ends of the levers moves them inward.

2. Center the actuating spring, C, between the lower ends of the levers so that, as the transfer arm returns a record to the magazine, both levers contact the spring and operate at the same time. With the above adjustment completed, the actuating spring should not be against the contact arm, D, when the transfer arm is in the playing position.





3. As the transfer arm raises a record from the magazine, the actuating spring should not follow the arm higher than indicated below but the levers must not start to open until their tips have passed 3/8", minimum, the lower edge of a 12" record. At the position where the transfer arm leaves the actuating spring, the tip of the spring should be flush with or extend slightly beyond the outer surface of the levers.



ADJUSTMENT #29

PICKUP CARTRIDGE BRUSH ADJUSTMENT

The brush brackets should be adjusted so the tips of the bristles are 5/8" from the surfaces of a standard, flat, .080" thick record. The brushes will then clear the idle stylus approximately 1/16" when a record is playing and will engage the stylus from 1/16" to 1/8" when the pickup arm returns to the scan position.

CARRIAGE ASSEMBLY WIRING AND CONTROL

Control of the carriage assembly is had through operation of switches and relays and involve four circuits. These circuits are independent in their operation and electrical continuity but they are closely related and dependent in operation sequence. The four circuits are shown on the following pages and are accompanied with explanations of operation. The switches and relays as shown in the drawings are in position for playing the right side of a record.

The locations of the relays and switches may be identified on the illustrations of the carriage assembly and are as follows:

Mute Switch..... A1
Cam Follow Arm Switch..... A7
Auxiliary Mute Switch..... A10

Clamp Arm Switch..... B3
Pickup Arm Shift Bar Switch..... B12
Control Lever Switch..... B19

Reversing Switch..... C13
Reverse Relay..... C14
Trip Switch..... C15
Left Side Relay..... C17
Right Side Relay..... C18
Interlock Lever Switch..... C20
Clutch Switch..... C21

CONTROL RELAY CIRCUIT

RIGHT SIDE AND LEFT SIDE RELAYS

The control relays are energized when their respective "L" and "R" contacts on the selector contact assembly contact a selection lever. These relays control the direction of rotation of the Carriage motor (during transfer and play of a record) and initiate the playing cycle by operation of the trip relay through contacts "LT" or "RT". (See Trip Relay Circuit).

Power for operation of the relays is supplied at 25-volts from the Selection Receiver through the reversing switch and through the Motor and Scan service switches. These switches must be in normal position for relay operation.

If only the right side of a record is selected, contact "R" energizes the Right Side Relay to close contacts "RB" and "RT" and open contact "RA". Contact "RT" closes the trip relay circuit to cause detenting of the carriage assembly in the record position. When the carriage is detented, the "R" contact is moved past the selection lever and is no longer effective. The lock-up contacts "RB" maintain the relay circuit through contact "F". Contact "F" opens after the carriage has partially transferred the record to playing position causing the Relay to drop out. The remainder of the playing cycle requires no further dependence on the Relay operation.

If only the left side of a record is selected, contact "L" energizes the Left Side Relay to close contacts "LA", "LB", and "LT". Contact "LT" closes the Trip relay circuit to cause detenting of the carriage in the record position. When the carriage is detented, the "L" contact is moved past the selection lever and is no longer effective. The lock-up contacts "LB" maintain the relay circuit through Contact "U". Contact "U" opens when the pickup arm control lever releases the pickup.

If BOTH sides of a record are to be played, BOTH relays are momentarily energized through the respective "L" and

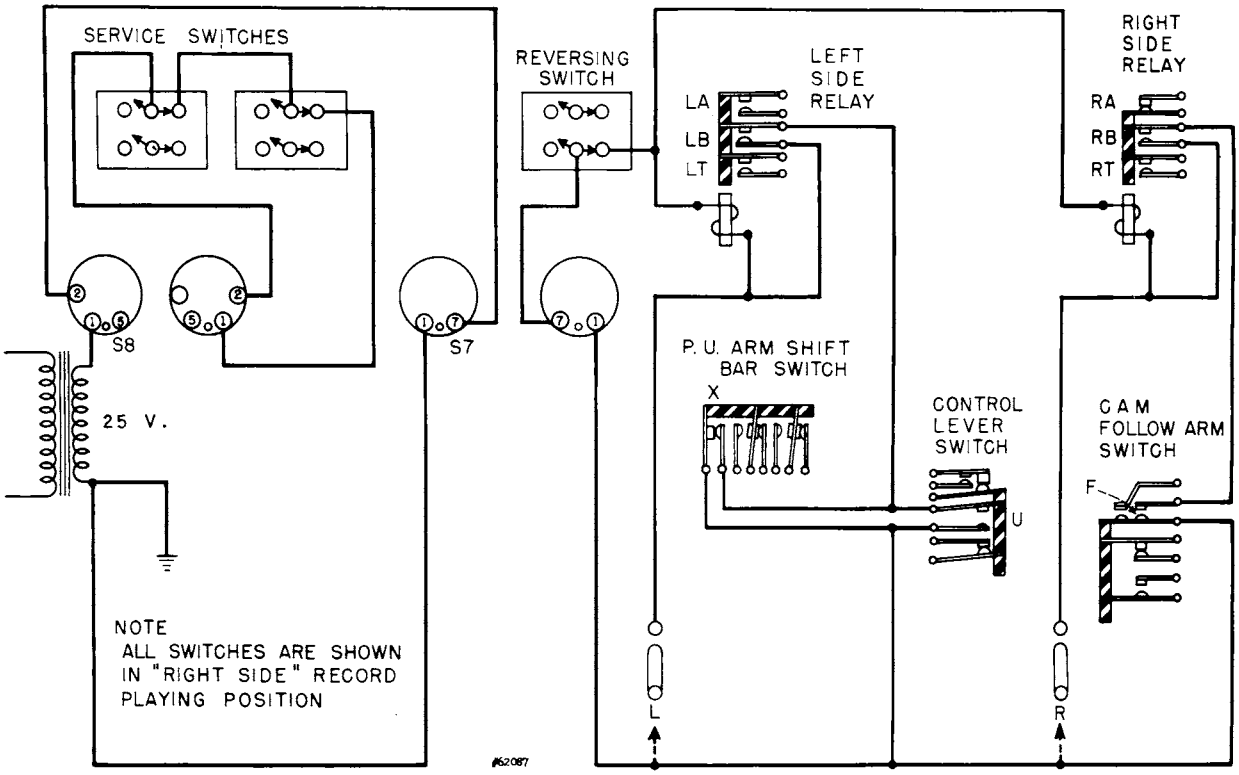


FIGURE 2. CONTROL RELAY CIRCUIT

"R" contacts and lock up through their holding circuits. With contact "RA" open, the motor direction remains unchanged and the right side of the record will be played. The Right Side Relay will drop out when contact "F" opens but the Left Side Relay will remain locked-up through contact "U" (until the pickup arm control lever opens contact "U") and Contact "X". (Contact "X" is closed when the pickup arm is in position for playing the RIGHT SIDE of the record.) On completion of right side playing the record transfer operation (to the magazine) will begin and will continue until the reverse relay is energized through contacts "LA", "RA", "B" and "E". The reverse relay latch lever holds the reverse relay in the energized position through the subsequent cycle of left side playing.

The Left Side Relay drops out when the control lever moves the pickup to the record and opens contact "U". The reverse relay latch lever holds the reverse relay in the energized position through the subsequent cycle of left side playing and the two control relays have no further function in the operation cycle.

This circuit can be checked only with normal operation (because the 25-volt source is interrupted if the motor service switch is turned off) or with an ohmmeter.

REVERSE RELAY CIRCUIT

The reverse relay controls the direction of rotation of the carriage motor. It is energized when the reversing switch actuating lever is tilted toward the right to scan the carriage toward the right end of the magazine and when the carriage starts the record transfer operation for playing the left side of a record. During the left-to-right scanning, the relay is energized until the carriage has reached the limit of travel to the right where the reversing switch lever is tilted to the left. The relay is energized for a brief time at the start of the record transfer operation for left side playing and is *mechanically held in the energized position until the record has been played and is returned to the magazine.*

Power for operation of the relay is supplied at 25-volts from the Selection Receiver through the reversing switch.

Contact "LA" is closed when the Left Side Relay is energized through the "L" Contact.

Contact "RA" remains closed if only the LEFT SIDE of the record is to be played.

Contact "B" closes *when the clutch member engages the clutch worm.*

Contact "E" is closed in the scan position and will open after the record has been partially transferred.

If BOTH sides of a record are to be played, BOTH control relays are energized before contact "B" is closed and the reverse relay circuit will be open at contact "RA". The Right Side Relay is "dropped out" when contact "F" opens and the reverse relay circuit will be closed through contact "RA".

To test the relay circuit for continuity or operation:

(a) Turn the motor service switch to the off position.

(b) Operate the trip relay from the scan position.

(c) Rock the flywheel until the clutch member engages the clutch worm (to close contact "B").

(d) Manually operate the Left Side Relay (to close contact "LA").

Note: The reverse relay should latch under the relay lock lever when energized.

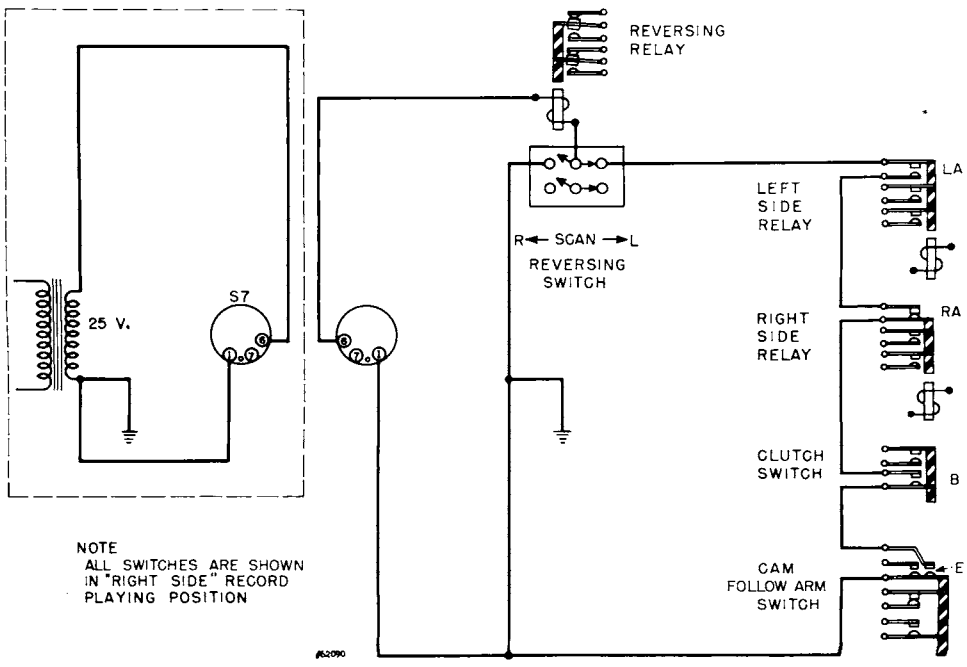


FIGURE 3. REVERSE RELAY CIRCUIT

TRIP RELAY CIRCUIT

The trip relay is energized to engage the clutch member with the clutch worm and initiate a transfer operation of the carriage assembly. It can be energized only when the Motor and Scan Service Switches are in normal position and the carriage is either (a) in the play position (contact "V" closed) or (b) scanning from right to left (reversing switch actuating lever tilted to the left and the "W" contact closed). Power for trip relay operation is supplied at 25-volts from the Selection Receiver.

Condition (a): Contact "V" closes when the control lever releases the pickup arm just before the record begins to play. The circuit may be completed through the trip contact "A" at the end of playing, through contacts "S" or "P" in event a record is not correctly centered on the flywheel or there is no record transferred, or, manually, with the reject switch which is connected to the circuit through the small two-prong socket on the Selection Receiver.

Condition (b): Contact "W" is closed only during the scanning operation and completes the trip relay circuit to the trip contacts "LT" and "RT" on the Left and Right Side Relays.

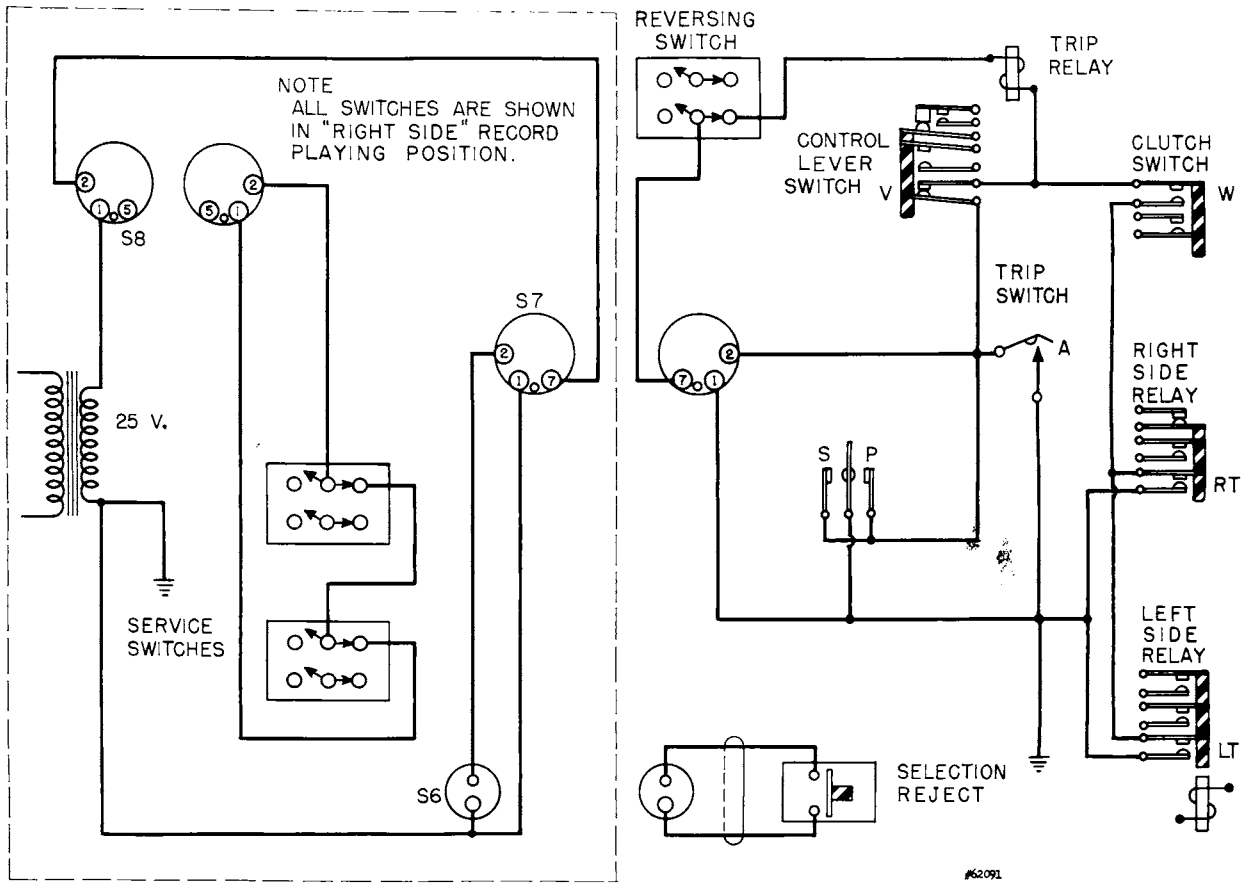


FIGURE 4. TRIP RELAY CIRCUIT

CANCEL SOLENOID CIRCUIT

The cancel solenoids -- Right and Left -- restore the respective magnetically operated selection levers to their normal off positions. Right or Left Solenoid operation is controlled by the position of the pickup shift bar switch. This position is established during the operation of transferring a record to the playing position and will effect closing of contact "LC" or "RC". Power for operation of the solenoids is supplied from the Selection Receiver. Motor and Scan Service Switches are in normal position and contacts "C", "SC", and "IC" are closed.

The circuit is closed only at the time that the control lever is released after a record has been transferred to the playing position. The circuit is closed with contact "C" and is interrupted with contact "SC". Contact "C" and "SC" are again momentarily closed on completion of playing but contact "IC" will be opened by the interlock lever.

If no record is transferred from the magazine or if a record does not center properly in the playing position, the trip relay circuit is completed through contacts "V" and "P" or "S" before contact "C" is closed. This results in opening of contact "IC" so the cancel solenoid does not operate to cancel the selection.

It should be noted that this arrangement will prevent immediate repetition of a selection if other selections have been made.

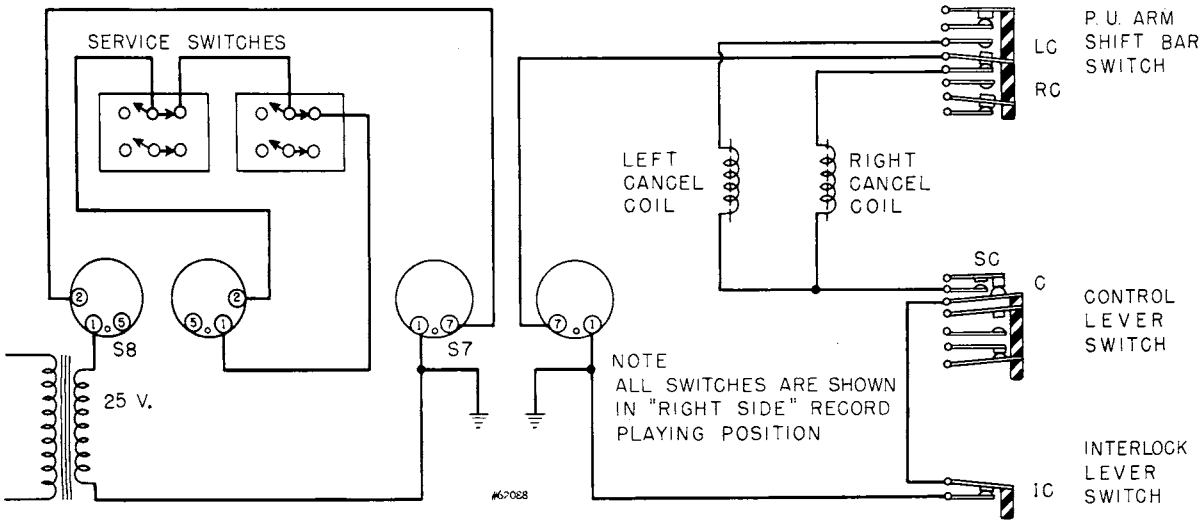


FIGURE 5. CANCEL SOLENOID CIRCUIT

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CONTROL SEQUENCE

RIGHT AND LEFT SIDE PLAYING

When both, right and left sides of a record, are selected, both Right Side and Left Side relays are energized through, respectively, the "R" and "L" contacts as the carriage approaches the selected record. The relay contacts "RT" and "LT" close the Trip Relay (through contact "W" on the Clutch Switch) to initiate the transfer operation of the carriage. The carriage is detented at the selected record when the clutch shifting lever moves to the transfer position and contacts "R" and "L" move past the selector levers. The Right Side Relay remains energized through the holding circuit, contact "RB" and contact "F" (cam follow arm switch). The Left Side Relay remains energized through its holding circuit, contact "LB" and contact "U" (control lever switch). The clutch shifting lever breaks the trip relay circuit by opening contact "W" (clutch switch).

As the record starts toward the playing position, contacts "E" and "F" open (cam follow arm switch). Contact "F" opens the holding circuit for the Right Side Relay allowing that relay to drop out. Contact "E" interrupts the reverse relay circuit (which would be closed at contact "RA" when the Right Side Relay dropped out) preventing operation of the reverse relay. The result is continued counter-clockwise rotation of the flywheel and the record will be transferred to play the right side.

As the record is transferred, the pickup arm will be on the right side or will move to the right side so contact "X" (shift bar switch) is closed and parallels contact "U" in the hold circuit of the Left Side Relay. When the pickup arm moves to the record, contact "U" will open but contact "X" maintains the Left Side Relay hold circuit.

After the record has played, the trip relay will be energized through contact "A" (Trip Switch) and "V" (Control Lever Switch) and transfer of the record to the magazine begins. When the record has reached the magazine but before the carriage starts to scan, the cam follow arm closes contact "E" to complete the reverse relay circuit. The circuit is through contact "E", contact "B" (clutch switch), contact "RA" (Right Side Relay), and contact "LA" (Left Side Relay -- which is still energized through its holding circuit). When the reverse relay is energized, the motor direction is changed.

The change of direction of the motor from counter-clockwise to clockwise rotation of the flywheel occurs after the cam assembly has been turned far enough toward the scan position to permit the roller on the pickup shift bar crank to engage in a notch in the shift cam so the pickup arm will move to the left side of the record during the subsequent transfer operation.

After the motor has reversed and the record starts toward the playing position, the cam follow arm opens contact "E" and interrupts the reverse relay circuit. The relay, although no longer energized, will remain in the energized position through mechanical locking provided by the reverse relay latch lever so the motor continues to turn the flywheel in the clockwise direction. Continuing the transfer operation: the pickup arm is transferred for left side playing and the shift bar opens contact "X". The Left Side Relay does not drop out when "X" opens because it is paralleled by contact "U". When the pickup arm is released by the control lever, contact "U" is opened to interrupt the relay circuit and drop out the relay. The record is played and again the trip relay is energized through the trip circuit contacts "A" and "V" to initiate transfer of the record to the magazine. The transfer operation continues until the clutch member and the clutch shifting lever move toward the scan position. The clutch shifting lever, operating through the reverse relay latch lever, releases the mechanical lock of the reverse relay so the motor direction changes for counter-clockwise rotation of the flywheel. When this occurs, the clutch member engages the sprocket and the scanning operation is resumed (or contact "D" -- the carry-over contact on the cam follow arm switch -- opens to drop out the play control relay and turn off the motor power).

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ADJUSTMENTS

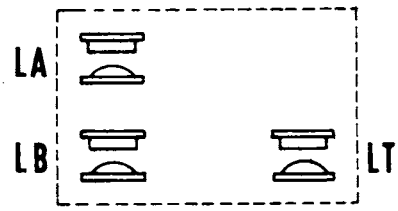
LEFT SIDE RELAY, A250996, (C-17, Page 2057)

Contact Functions:

"LA" Reversing Relay Circuit.

"LB" Left Side Relay holding circuit.

"LT" Trip Relay Circuit.



Adjustments:

1. All contacts normally open.
2. All contact gaps 1/32".
3. All contact pressures 1 oz.
4. Armature Gap 1/16"

D.C. Coil Resistance - 24 ohms.

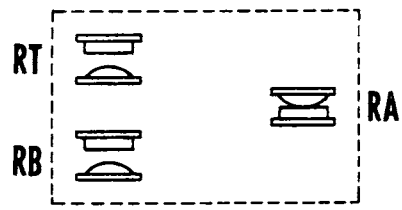
RIGHT SIDE RELAY, A250995, (C-18, Page 2057)

Contact Functions:

"RA" Reversing Relay Circuit.

"RB" Right Side Relay holding circuit.

"RT" Trip Relay Circuit.



Adjustments:

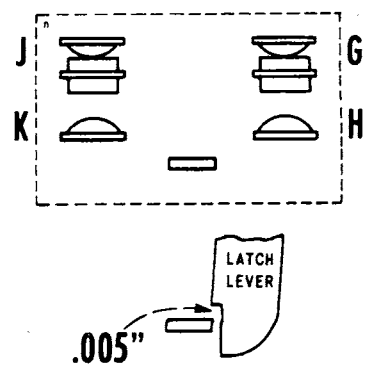
1. Contact "RB" and "RT" normally open.
2. Contact "RA" normally closed.
3. Contact Gaps 1/32".
4. Contact pressure 1 oz.
5. Armature gap - 1/16".

D.C. Coil Resistance - 24 ohms.

REVERSING RELAY, A250926, (C-14, Page 2057)

When the Reversing Relay is energized (armature "seated" on pole piece), the gap between the Latch Lever and Armature Extension *should be* approximately .005". If the gap is greater, the relay contact pressures will be reduced from specifications, below; if the gap is less, failure to latch may result. (See sketch.)

All Contact Pressures - 1 oz. Min.
All Contact Gaps - 3/64" Min.
D.C. Coil Resistance - 21 ohms.

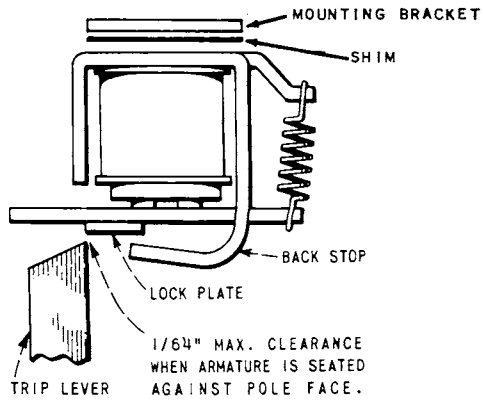


TRIP RELAY, A250885, (D-9, Page 2058)

Maximum clearance between the tip of the Trip Lever and the Lock Plate is 1/64" when the relay is energized. Clearance is effected by the length of the Trip Lever and dimensions of the Relay Frame. Adjust for clearance with shims between the relay and mounting bracket as shown.

Tail spring pressure should be 30 to 40 grams (measured at the tip of the armature) to start the armature from the back stop when the trip lever is not latched.

D.C. Coil Resistance - 8.5 ohms (approx.)



PICKUP ARM SHIFT BAR SWITCH, A250737, (B-12, Page 2056)

Contact Functions:

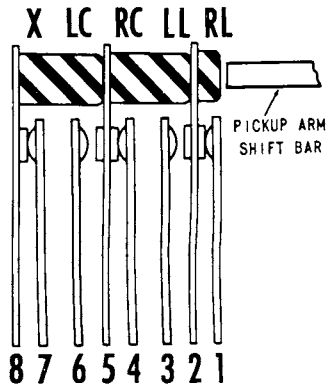
"X" Hold circuit for Left Side Relay.

"LC" Left Selection Cancel Coil Circuit.

"RC" Right Selection Cancel Coil Circuit.

"LL" Left Selection Indicator Lamp Circuit.

"RL" Right Selection Indicator Lamp Circuit.



All Contact Gaps - 1/32".
All Contact Pressures - 1-1/2 oz. min.

Adjustment check:

CONTACT		PLAY Left Side		PLAY Right Side
X	-	Open	-	Closed
LC	-	Closed	-	Open
RC	-	Open	-	Closed
LL	-	Closed	-	Open
RL	-	Open	-	Closed

MUTE SWITCH, A250093, (A-1, Page 2055)

Contact Function:

"M" Mutes sound output.

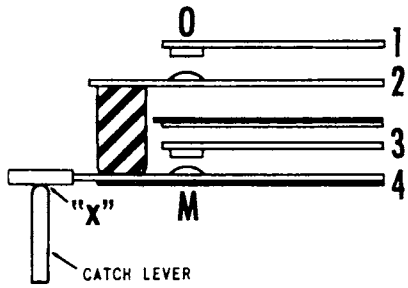
"O" Adds additional Capacity to motor circuit.

Adjustments:

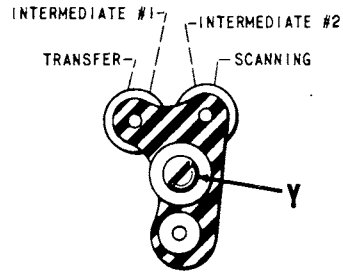
1. In the *Play* position, the lower blade of the Mute Switch should be centered between the rollers of the Catch Lever and should bear against the lever with a very light pressure (less than 1/4 oz.). The fibre lift attached to the lower blade of contact "O" should bear against the lower blade of contact "M" with a very light pressure (less than 1/4 oz.). The lower switch blade is centered between the rollers by positioning the Catch Lever with screw "Y".

2. Trip the mechanism from the *Play* position to the Intermediate Position #1. In this intermediate Position, the pin on the lower end of the Clutch Worm is not aligned with a notch in the Clutch Member and the upper surface of the Clutch Member is bearing against the end of the pin. Contact "O" should be open approximately 1/64". Contact "M" should be closed with approximately 1/2 oz. (10 to 20 grams) pressure.

3. In *Transfer* position (Clutch Member engaged with the pin on the Clutch Worm), contact "O" will be closed with 1-1/4 to 1-3/4 oz. (35 to 50 grams) pressure. Contact "M" will have the correct pressure if the gap is adjusted as specified in Adj. 1 above. The force (applied at point "X") necessary to just lift the lower blade of the Mute Switch "M" from the roller should not exceed 3-1/2 oz. (100 grams). If more force is necessary, recheck the adjustments 1 and 2 above.



Contact Gaps: "M" - .010" "O" - 1/32"



4. In *Scan* position, the contact pressure of "O" and "M" will be approximately the same as in *Transfer* position (Adj. 3 above).

5. The Intermediate Position #2 is attained when the lower end of the Clutch Member may rest temporarily on the Clutch Engaging Member during transition from *Transfer* to *Scan* position. In this Intermediate Position, contact "O" may be open or closed. Contact "M" will be closed with correct pressure if the gap is adjusted as specified in Adj. 1 above.

AUXILIARY MUTE SWITCH, A250244, (A-10, Page 2055)

Contact Function:

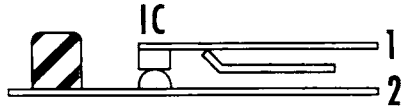
In parallel with Contact "M", Mute Switch.

Contact Gap - 1/32"
Contact Pressure - 1-1/2 oz.

Adjustment check:

Carriage Position		
SCAN		PLAY
Closed	-	Open

INTERLOCK LEVER SWITCH, A250993, (C-20, Page 2057)



Contact Functions:

"IC" Contact is in the Selection Cancel Coil Circuit.

Adjustments:

Contact Gap - 1/64" min.
Contact Pressure - 1-3/4 oz. min.

Adjustment check:

CONTACT	Carriage Position SCAN	PLAY	TRIP RELAY ENERGIZED
IC	- Closed	- Closed	- Open

CONTROL LEVER SWITCH, A250740, (B-19, Page 2056)

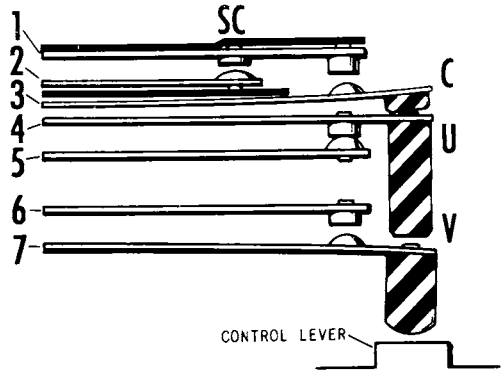
Contact Functions:

"V" Contact is in the Trip Relay Circuit.

"U" Contact is in the Hold Circuit of the Left Side Relay.

"C" Contact is in the Selection Cancel Coil Circuit.

"SC" Contact is in the Selection Cancel Coil Circuit.



Adjustments:

1. Put mechanism in SCAN position.
2. Adjust lower fiber lift (blade #7) so it clears the control lever casting by 1/64".
3. Make the following adjustments.

CONTACT		Carriage Position SCAN	PLAY
*	V	Open 1/32" max.	Closed 1¼ oz. min.
	U	Closed 1¼ oz.	Open 1/32" max.
*	C	Open 1/16" min.	Closed 2 oz.
**	SC	Closed 1¾ oz.	Open 1/64" max.

*When approaching play position, Contact V must make before Contact C.

**C and SC contacts must be closed just as the pickup touches the record. As the control lever moves up to release the pickup, SC opens.

CLAMP ARM SWITCH, A250105, (B-3, Page 2056)

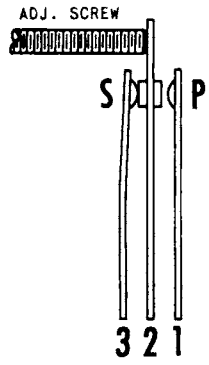
Contact Functions:

"P" Energizes the Trip Relay when there is *No* Record on the Flywheel.

"S" Energizes the Trip Relay when the Record is *Off-Center* on the Flywheel.

The Clamp Arm Switch is controlled by the movement of the Clamp Arm through an Adjusting screw. Following is the proper procedure for adjusting the switch:

1. Contact "P" is closed with 1 ounce pressure by turning the Adjusting Screw when the Record Clamp is in Record Playing Position but with *No* Record on the Flywheel.
2. With a record (average 10" record thickness - .080") on the Flywheel, Blade #1 and #3 are biased toward the #2, Center Blade, so as to allow 1/32" Gap between Contacts "P" and "S".



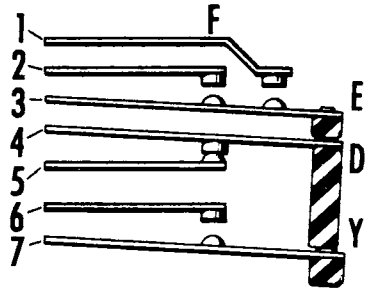
Contact "S" is closed during Scanning and Record Transfer Position.

Contact Pressures are 1 ounce, minimum.

CAM FOLLOW ARM SWITCH, A250241, (A-7, Page 2055)

Contact Function:

"F" Right Side Relay Circuit.
"E" Reverse Relay Circuit.
"D" Carry-over Switch - Play Control Relay Circuit.
"Y" In parallel with Contact "O", Mute Switch.



All Contact Pressures 1¼ oz. minimum.

Adjustments:

1. Put Carriage mechanism in play position.
2. Adjust fiber lifts so that they just touch.
3. Adjust blade #6 so Contact "Y" has 1/32" gap.
4. Put Carriage mechanism in position so that Cycling lever is in the detent in the Cycling lever cam.
5. Loosen screws in slotted bracket that holds the switch assembly.
6. Shift the switch assembly vertically until the "F" contact has 1/64" gap. Tighten screws holding slotted bracket.
7. Adjust blade #1 so contact "E" has 3/64" gap.
8. Put mechanism in Scan position.
9. Adjust blade #5 so Contact "D" has approximately 1/32" gap.*

Adjustment check:

	Carriage Position		
CONTACT		SCAN	PLAY
F	-	Closed	- Open
E	-	Closed	- Open
D*	-	Open	- Closed
Y	-	Closed	- Open

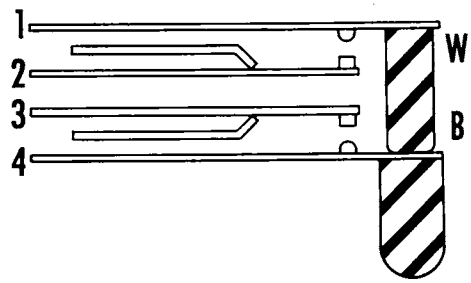
*With no selections on the Solenoid Assembly, Contact "D" is to remain closed long enough to allow the record to be fully returned to the magazine and the transfer arm not supporting a 10" record. Check is to be made when the mechanism is returning a record from the turntable to the magazine and *is to be checked from both* sides of a record.

CLUTCH SWITCH, A250992, (C-21, Page 2057)

Contact Functions:

"B" Contact is in the Reversing Relay circuit.

"W" Contact is in the Trip Relay Circuit.



Adjustments:

1. Put mechanism in Scan Position.
2. Bias fiber lift and blade #4 against the Clutch Lever with ¼ to ½ oz. pressure.
3. Adjust blade #3 to give Contact B 1/64" gap.
4. Bias fiber lift and blade #1 so lift just clears blade #4.
5. Adjust blade #2 to make Contact W with 1 oz. pressure.

Adjustment check:

	Carriage Position	
CONTACT	SCAN	PLAY
B -	Open -	Closed
W -	Closed -	Open

TRIP SWITCH, A250925, (C-15, Page 2057)

Contact Function:

Contact "A" closes when Trip Lever is unlatched by the Pickup Arm Release Lever. When contact closes, Trip Relay is energized. Adjust with mechanism in scan position and Trip Lever reset.

When the Trip Switch adjustments have been completed, the force required to release the Trip Lever must not exceed 1/2 oz. applied under Trip Lever roller.

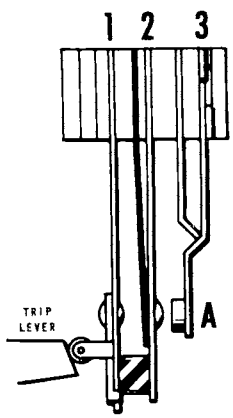


FIGURE A.

Adjustment check:

Carriage Position

SCAN - PLAY

Open - Open

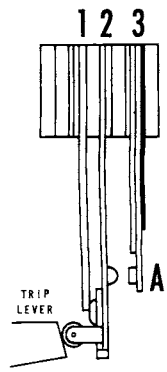


FIGURE B.

Adjustments: (Fig. a)

1. Bias roller blade against the Trip Lever with 1/4 oz. pressure.
2. Bias fiber lift (blade #2) against roller blade with 1/4 oz. pressure.
3. Adjust Contact A for 1/32" gap.

Adjustments: (Fig. b)

1. Bias Roller (blade #2) against bracer blade #1 with 1/6 oz. pressure. The roller should be centered with respect to Trip Lever.
2. Bias blade #1 so that the roller on blade #2 *lightly* touches the Trip Lever.
3. Bias blade #3 so Contact A has 1/32" max. gap.

SOLENOID ASSEMBLY, TYPE 100SA-1

The Solenoid Assembly is a part of the 100S2-L6 Select-O-Matic Mechanism. Its function is control of the carriage assembly to play selections made with the electric selector or with Wall-O-Matics. This function is performed with selection levers which are arranged so the trip relay will be operated when the carriage approaches a selected record.

The selection levers are extended armatures of selector coils (electro-magnets) and are moved, individually, from their normal position to a "play position" by passing current through the coil associated with the lever to be operated. They are spaced on 5/16" centers and arranged in two rows of 50 each which are parallel to the line of travel of the carriage assembly so there are two levers for each record space in the magazine.

A Selector Contact Block supporting two trip contacts, two dressing pins, and two cancel solenoids is attached to the carriage assembly and moves the length of the Solenoid Assembly. The Trip contacts are the "L" and "R" contacts of the carriage control circuits which, when grounded, initiate the playing cycle of the Mechanism at the time of contact. When the selection levers are in their normal position, the trip contacts move past them without touching. In the play position, the tips of the levers are in the line of travel of the trip contacts and will ground them. These parts are shown in their relative positions in Figure 6.

The selection levers in the row toward the front of the Mechanism are for playing the right side of records and, when in the playing position, ground the "R" contact. The levers in the row toward the back are for the left side of records and, when in playing position, ground the "L" contact.

When the carriage is stopped by a selection lever grounding a trip contact, the cancel solenoids on the selector contact block are aligned with the lever. As the record is about to start playing, the appropriate solenoid, right or left, is energized and restores the lever to its normal position. The Cancel Circuit is shown in Figure 5 and is accompanied by a detailed description of its operation.

The dressing pins on the selector contact block serve merely to assure positioning of the selection levers. The pins will keep the levers "dressed" in their normal rest position by pressing lightly against them during the scanning operation of the carriage assembly.

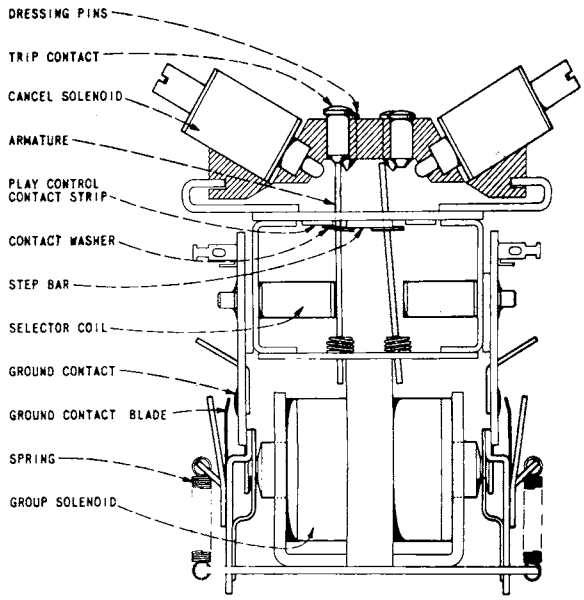


FIGURE 6.

A contact washer is a part of each selection lever. This washer moves with the lever and completes a circuit for energizing the play control relay in the Selection Receiver when the lever is in the play position. The contact washers on any of the selection levers will complete the circuit, energize the relay and cause the Select-O-Matic motor and the amplifier to be turned on. When only one selection lever is in the play position and is then restored to normal position, the play control relay will be energized through contact "D" of the cam follow arm switch until the carriage assembly has played the

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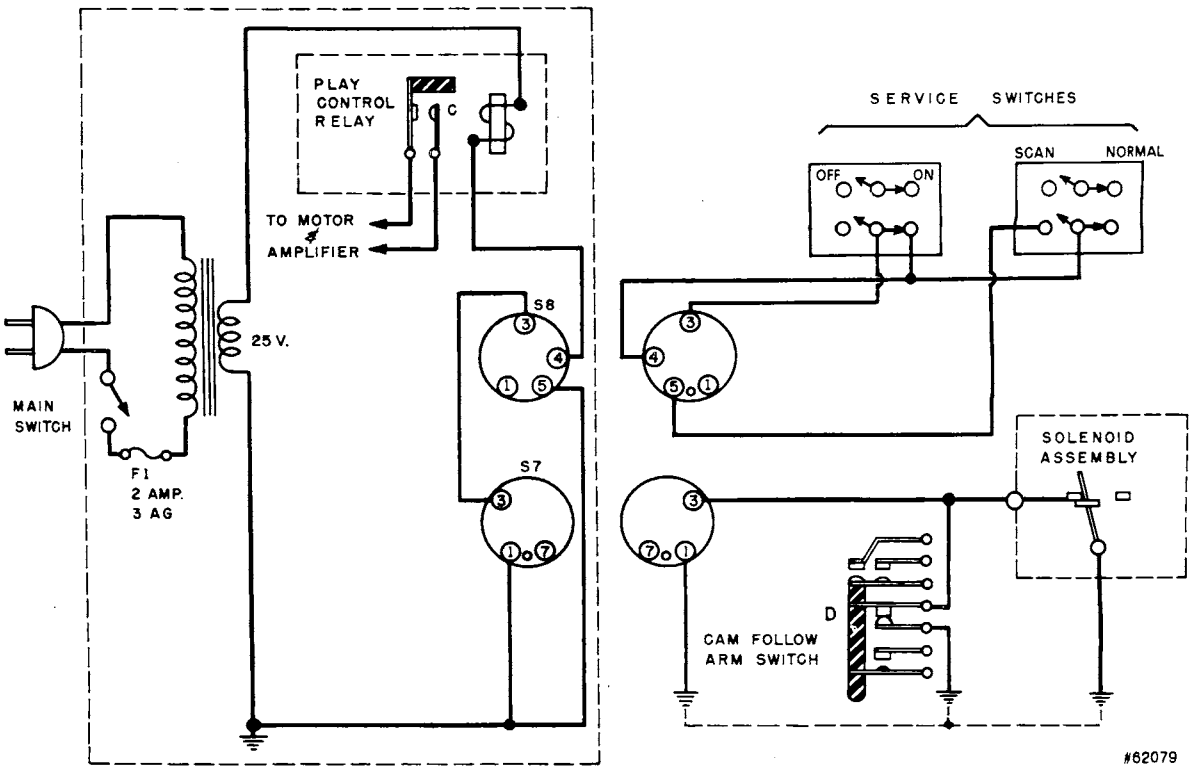

FIGURE 7. PLAY CONTROL RELAY CIRCUIT

record and cycled to the scan position. The Play Control Relay Circuit is shown in Figure 7.

The Solenoid Assembly is made up with five groups of selection coils, each group consisting of twenty coils and levers. Each of these groups is divided into two sections so there are ten sections. These sections are given reference letters, A to K (letter "I" omitted), to correspond to the lettered divisions of the record program. The coils and levers of each section are numbered from one to ten.

The circuit diagram of the Assembly is shown in Figure 8. One terminal of the correspondingly numbered coils of alternate lettered sections are connected to a single circuit. For example: one terminal of the #1 coil of sections A, C, E, G and J are connected together and the #1 coil of selections B, D, F, H and K are connected together. There are, then, a total of twenty circuits of five coils each. The other end of each coil connects to a grounding switch contact. The contacts are arranged in rows on each side of the assembly and connect to the grounded metal frame through grounding switches. There are ten of these switches -- five on each side of the Assembly -- each of which, when closed, connects ten selector coils to "ground".

Five Group Solenoids -- one for each group of twenty coils -- are used to operate the grounding switches. The switches operate in pairs -- one switch on each side of the assembly, -- so the twenty coils of a group are connected to ground when a solenoid is energized. For example: the selector coils in the A and B sections (which make up a group) are connected to ground when the A-B Group Solenoid is energized and the coils in the C and D sections are connected to ground when the C-D Group Solenoid is energized.

Power for operation of the selector coils and the group solenoids is supplied at 25-volts from the Selection Receiver. It is distributed through the Electric Selector system or through the Step Switches in the Selection Receiver, so when a selection is made, a group solenoid is energized and one of the twenty selection coil circuits of five coils is connected to

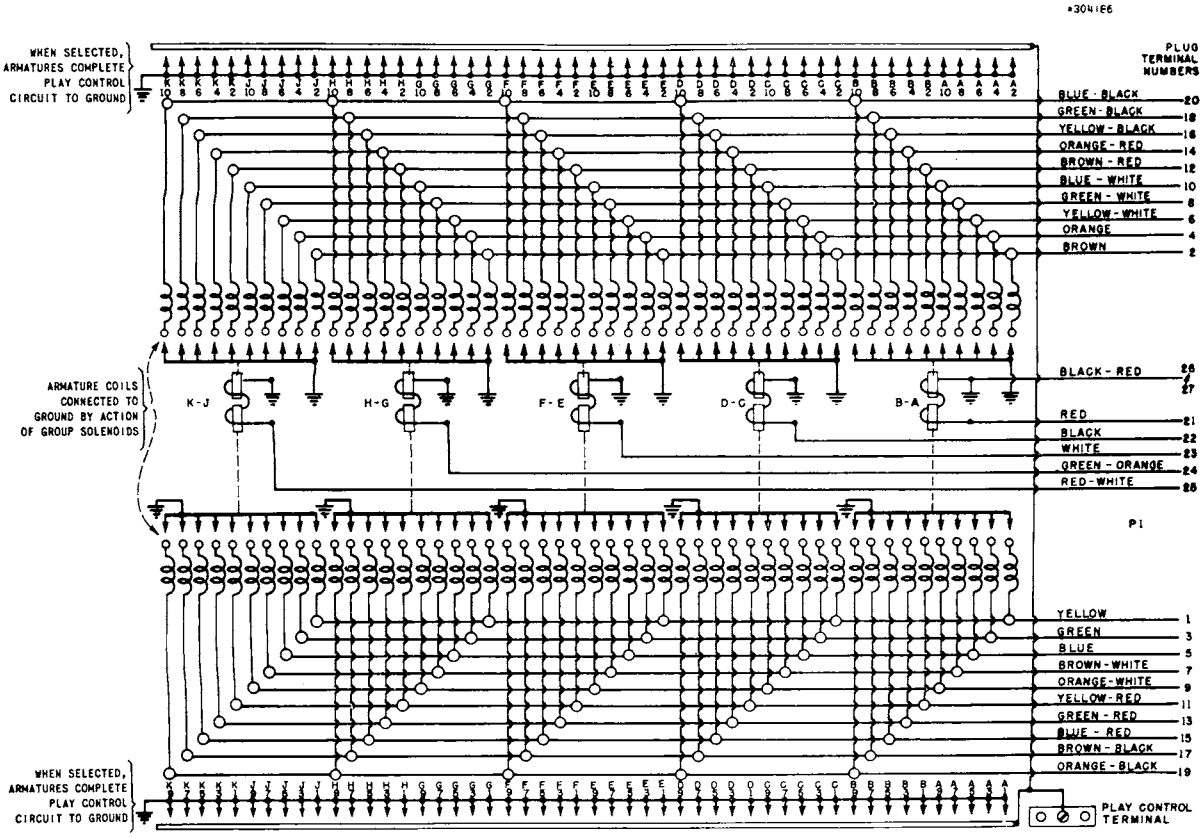

FIGURE 8. SCHEMATIC DIAGRAM - SOLENOID ASSEMBLY, TYPE 100SA-1

the ungrounded side of the 25-volt line. The group solenoid operates the group grounding switches so, of the five coils, only the coil associated with the energized group solenoid will have a complete circuit to ground and only that coil will be energized.

ADJUSTMENT OF CONTACT BLOCK AND SOLENOID ASSEMBLY

The relative position of the Solenoid Assembly and the Selector Contact Block is adjustable and should be such that the trip contacts ("L" and "R") are not touching the selector levers when the carriage assembly is in the playing position. The assembly is attached to the mechanism base with screws through slotted holes in mounting brackets at each end of the assembly. The Assembly should be mounted so the mounting screws are approximately centered in the slotted mounting holes.

Place the carriage assembly in the playing position at the fifth record space from the left (as viewed from the back).

Adjust the position of the Contact Block by shifting the block drive bracket (Figure 9) at the end of the selector arm so the LEFT edge of the Contact Block (as viewed from the back) is aligned vertically with the center line through the end selec-

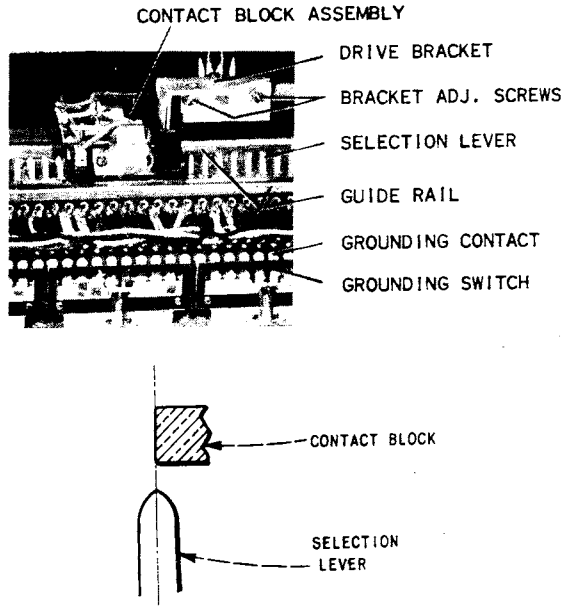

FIGURE 9.

tion levers (K9 and K10 levers). Check alignment of the edge of the block with centerline of A9 and A10 levers with the carriage assembly detented for playing record A1 and A2.

TRIP CONTACTS

The trip contact blade pressure should be measured at the tip of the blade and should be 15 to 20 grams to start the blade from normal position. The Trip Contacts must move freely in guide holes in the block.

DRESSING PINS

The Dressing Pin spring pressure should be measured at the tip of the blade and should be approximately 4-1/2 oz to start the blade from normal position. The Dressing Pin should move freely in the guide holes in the contact block.

NOTE: If the right hand reversing switch stop bracket is too close to the K9-K10 record position, the selector contact block will not travel far enough to the right for the dressing pins to be effective on the K9 and K10 selector levers. If the reversing switch stop bracket is correctly positioned, the K9 and K10 levers can be moved out slightly and it will be noted that the dressing pins will lift slightly and dress the levers to normal rest position when the carriage is operated under power. If the dressing pins do not lift and reset the levers, the bracket may have to be moved slightly farther to the right. If any change is made in the position of the reversing switch stop bracket, the rubber bumper will require readjustment.

GROUNDING SWITCHES

The grounding switch blades should have a gap of approximately 1/32". It is important that the individual contact blades are uniformly spaced from the contacts. When uniformly spaced, the ends of the blades in each group will be in an even, straight line.

RAIL SPACING

The rail spacing should be such that there is no tendency to bind the contact block and yet it should not permit excessive side play of the block. If the rails are slightly bowed, their spacing will not be uniform and there will be a tendency toward binding the block or looseness at different points along the rails. This condition can be taken care of by loosening the appropriate rail holding screws and, by hand pressure, springing the rail to provide reasonably uniform spacing throughout the length of the assembly. The rail should be sprung with moderate pressure and locked into place by tightening the screws. Do not attempt to form the rail so it is straight -- merely spring it and bind it in place in the straightened condition by tightening the screws.

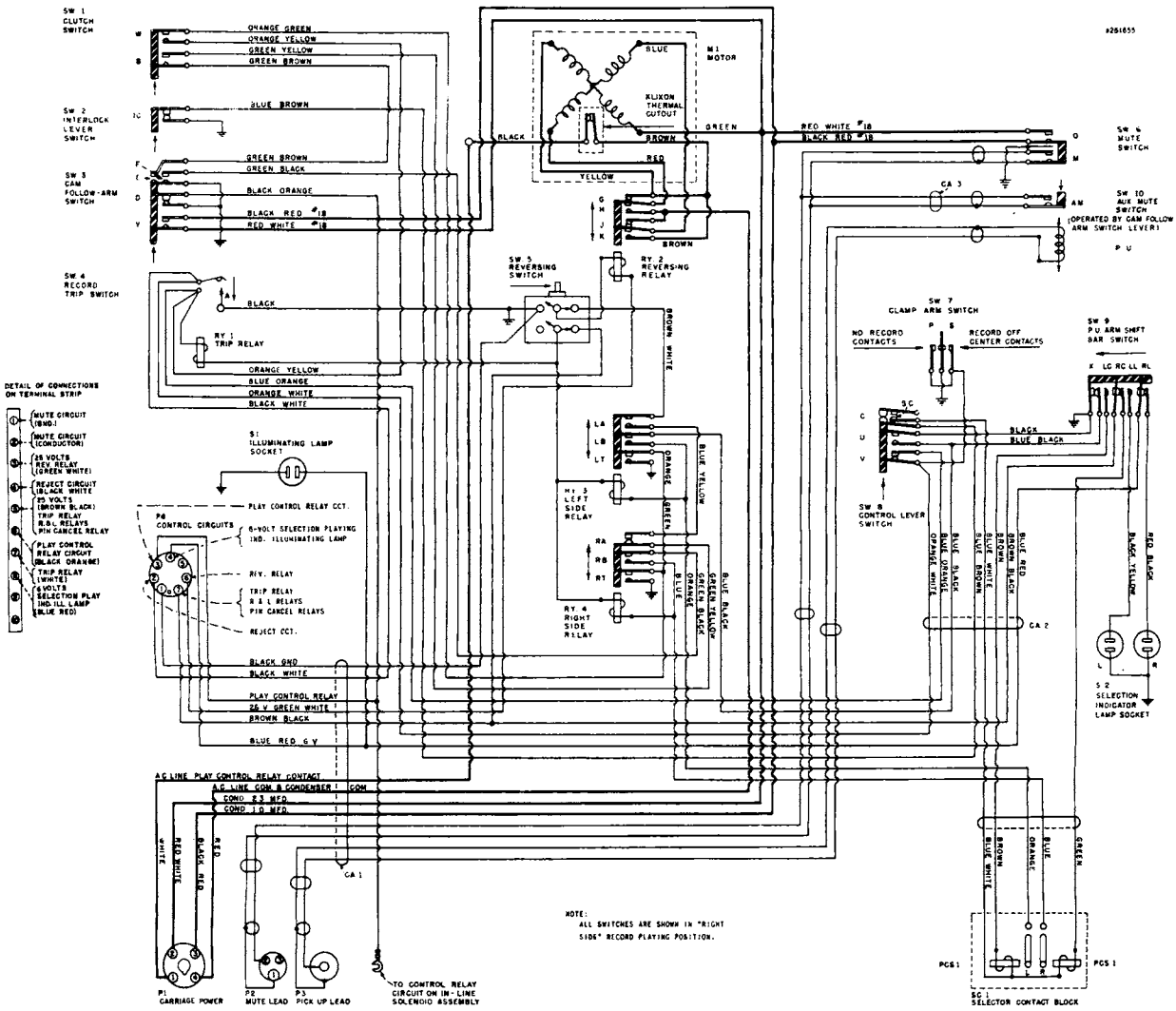

FIGURE 10. SCHEMATIC DIAGRAM - SELECT-O-MATIC "100" MECHANISM, TYPE 100S2-L6

PARTS LIST

Item	Part No.	Description	Item	Part No.	Description
CA1	A250997	Cable Assembly	RY4	A250995	Right Side Relay
CA2	A250994	Cable	S1	A251645	Lamp Socket
CA3	A250246	Aux. Mute Sw. Lead	S2	A250934	Lamp Socket
M1	A250109	Motor Assembly	SC1	304240	Selector Contact Block
P1	F7407	4-Prong Plug	SW1	A250992	Clutch Switch
P2	A250938	3-Prong Plug	SW2	A250993	Interlock Lever Switch
P3	K228440	Single Prong Plug	SW3	A250241	Cam Follow Arm Switch
P4	521117	7-Prong Plug	SW4	A250925	Trip Switch
PU	A251620	Pickup Cartridge	SW5	A250911	Reversing Switch
	A251621	Repl. Sapphire Needle	SW6	A250093	Mute Switch
	A251636	Repl. Diamond Needle	SW7	A250105	Clamp Arm Switch
PCS1	304242	Pin Cancel Solenoid	SW8	A250740	Control Lever Switch
RY1	A250885	Trip Relay	SW9	A250737	P.U. Arm Shift Bar Switch
RY2	A250926	Reversing Relay	SW10	A250244	Aux. Mute Switch
RY3	A250996	Left Side Relay			

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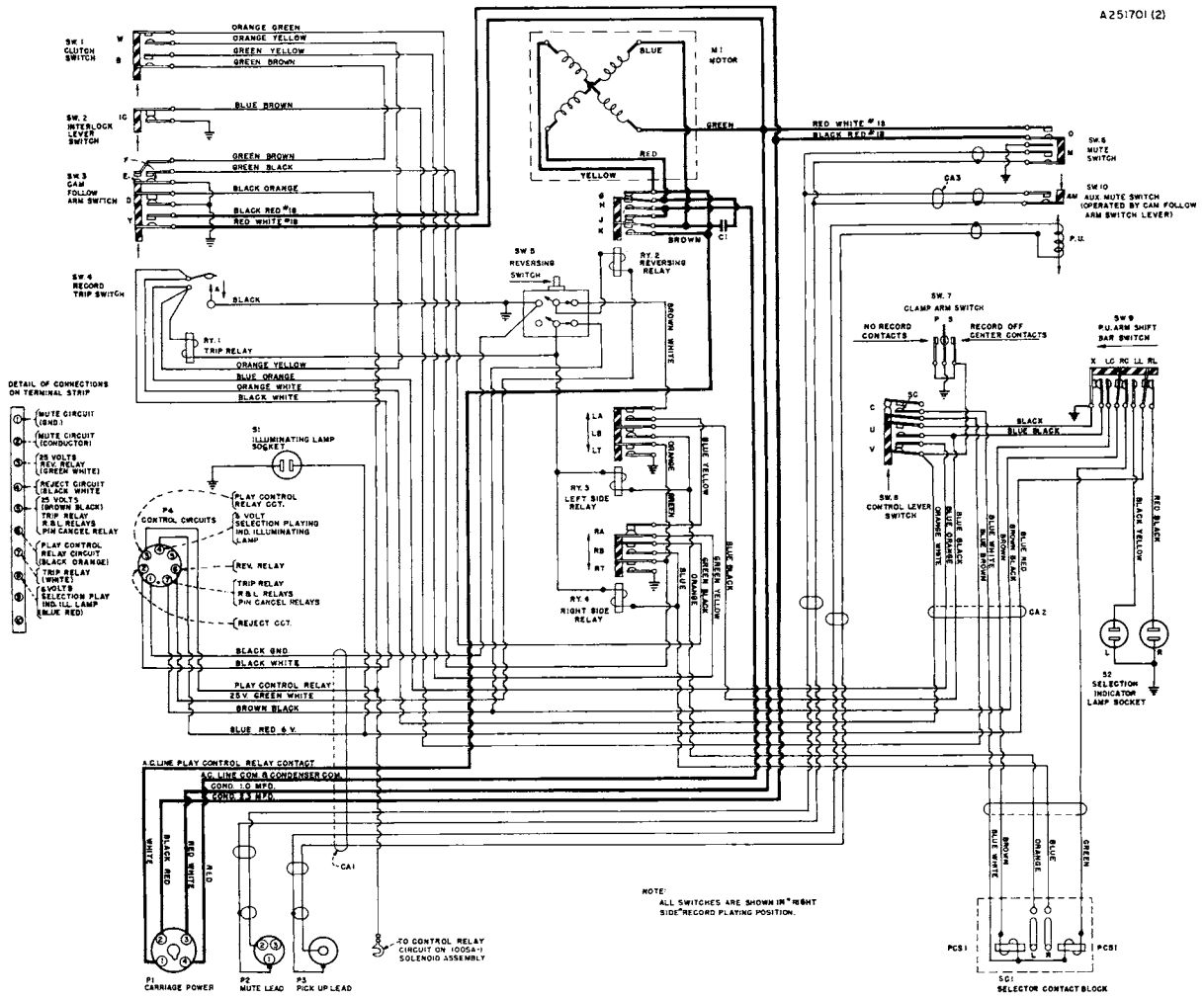


FIGURE 11. SCHEMATIC DIAGRAM - SELECT-O-MATIC "100" MECHANISM, TYPE 100S2-L6, USING PART NO. A250250 MOTOR ASSEMBLY (M1). SEE PAGE 2094. EFFECTIVE WITH MECHANISM SERIAL NO. 4285. (MOTOR TYPE NO. 340.)

PARTS LIST

Item	Part No.	Description	Item	Part No.	Description
C1	86155	.1 mfd. 600 v. Condenser	RY4	A250995	Right Side Relay
CA1	A250997	Cable Assembly	S1	A251645	Lamp Socket
CA2	A250994	Cable	S2	A250934	Lamp Socket
CA3	A250246	Aux. Mute Switch Lead	SC1	304240	Selector Contact Block
M1	A250250	Motor Assembly	SW1	A250992	Clutch Switch
P1	F7407	4-Prong Plug	SW2	A250993	Interlock Lever Switch
P2	A250938	3-Prong Plug	SW3	A250241	Cam Follow Arm Switch
P3	K228440	Single Prong Plug	SW4	A250925	Trip Switch
P4	521117	7-Prong Plug	SW5	A250911	Reversing Switch
PU	A251620	Pickup Cartridge	SW6	A250093	Mute Switch
	A251621	Repl. Sapphire Stylus	SW7	A250105	Clamp Arm Switch
PCS1	304242	Pin Cancel Solenoid	SW8	A250740	Control Lever Switch
RY1	A250885	Trip Relay	SW9	A250737	P.U. Arm Shift Bar Switch
RY2	A250926	Reversing Relay	SW10	A250244	Aux. Mute Switch
RY3	A250996	Left Side Relay			

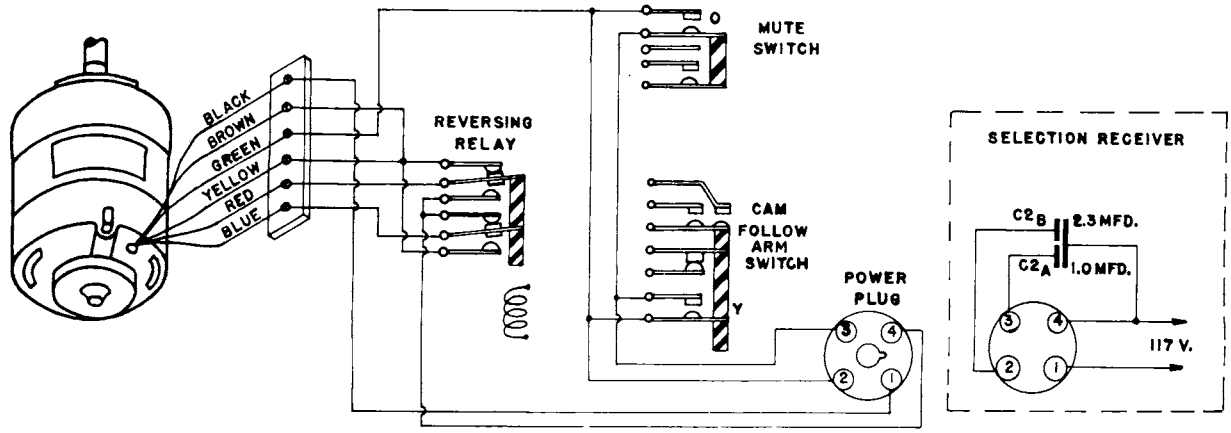


FIGURE 12. MOTOR CIRCUIT WIRING FOR PART NO. A250109 MOTOR (RUSSELL ELECTRIC CO. TYPE 335)

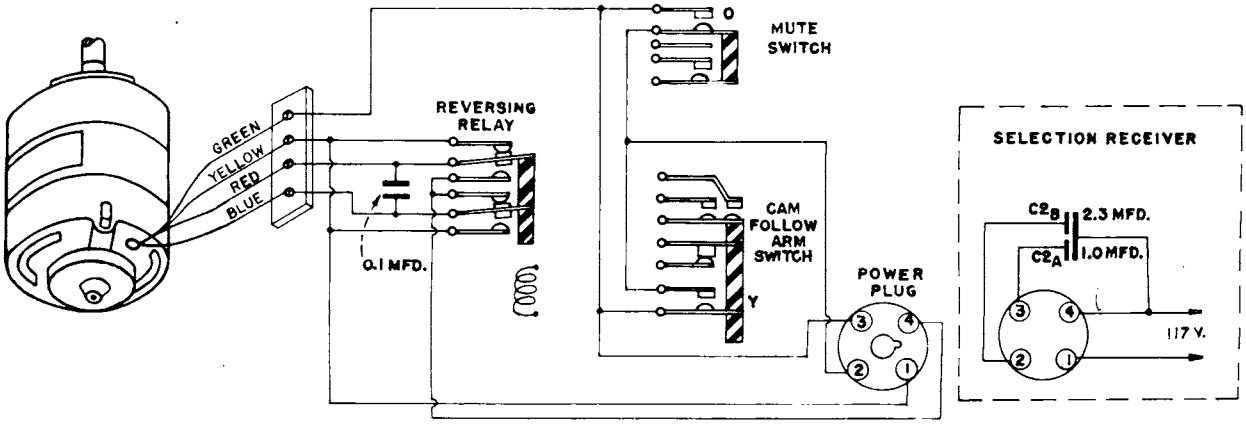


FIGURE 13. MOTOR CIRCUIT WIRING FOR PART NO. A250250 MOTOR (RUSSELL ELECTRIC CO. TYPE 340)

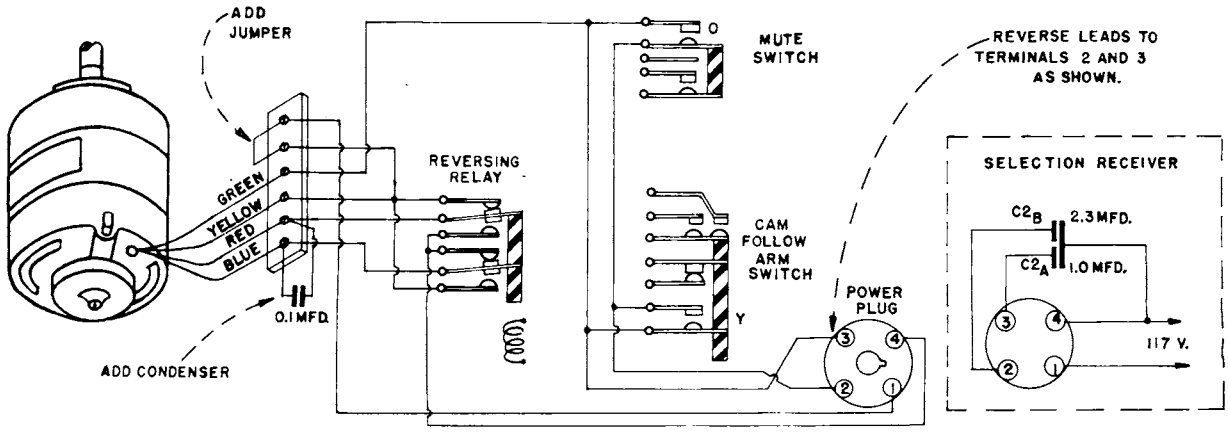


FIGURE 14. MOTOR CIRCUIT WIRING CHANGES WHEN REPLACING #A250109 MOTOR WITH #A250250 MOTOR.

Note: *A250109 Motor* uses 2.3 mfd. series condenser when record is playing and additional 1 mfd. when transferring a record and scanning. A change of motor types may require a change of adjustment of the reversing switch stop brackets and rubber bumpers (See Page 2065).

MECHANISM ASSEMBLY PARTS INDEX

& PARTS LIST

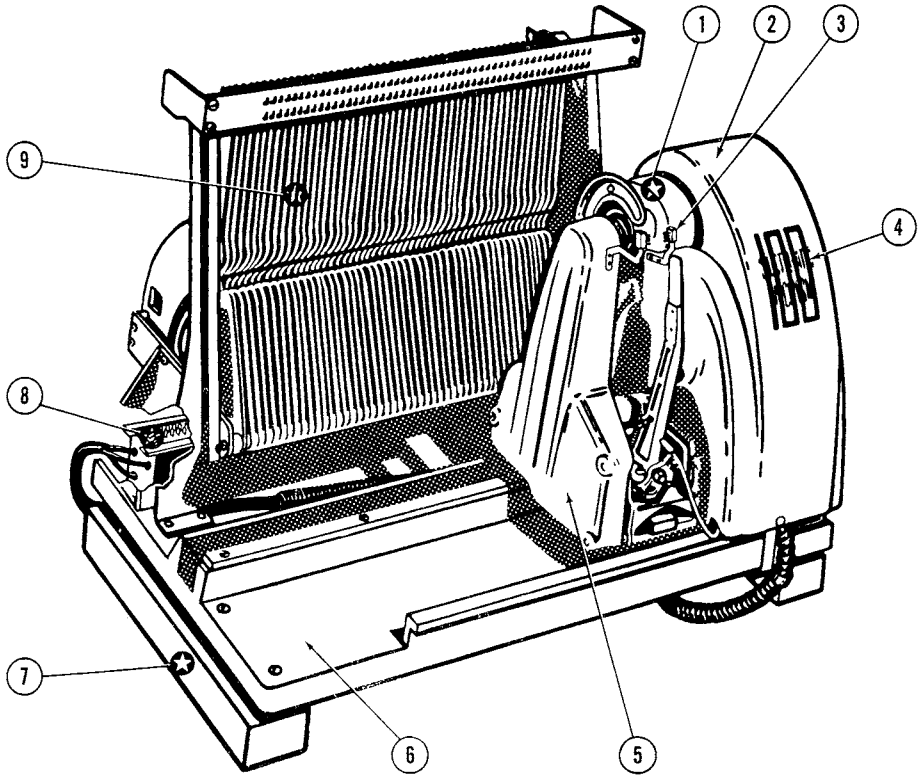
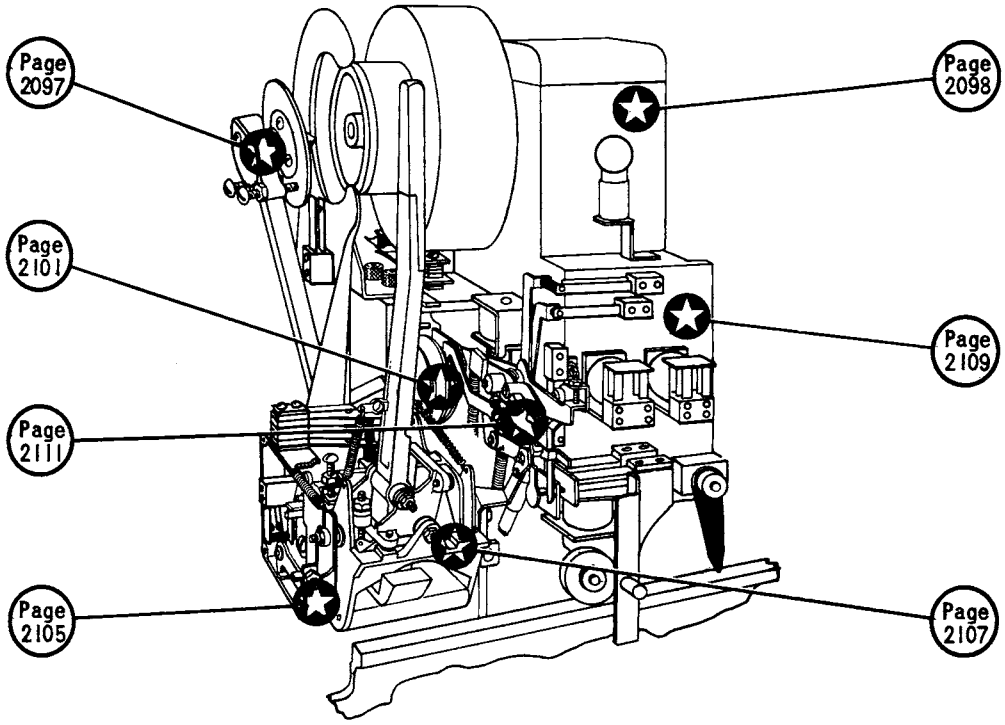
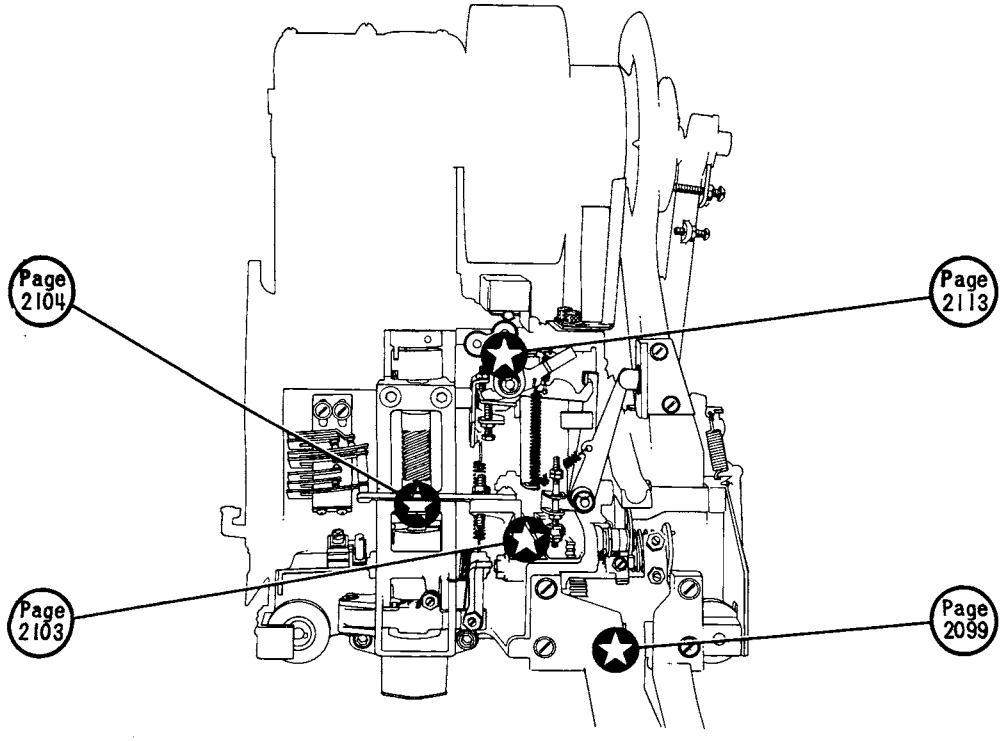


Figure 15.

Item	Part No.	Description
1		Carriage Assembly, Page 2096
2	251658	Cover & Window Assembly
	71947	Cover Mounting Screws
3	251684	Pickup Brush
	251686	Brush Mounting Blade, L.H.
	251685	Brush Mounting Blade, R.H.
	71965	Mounting Screws
4	251659	Escutcheon Window
	F-7817	#81 Frosted Lamp
	251645	Lamp Socket
5	251628	Clamp Arm Cover
	71957	1-1/2" Mounting Screw
	71120	1" Mounting Screw
	71945	5/8" Mounting Screw
6	251660	Base Cover Plate
	71963	Mounting Screws (6)
	251667	Base Cover Plate, R.H., Small
	71963	Mounting Screws (2)
7		Base Assembly, Page 2114
8	304200	Solenoid Assembly, Type 100SA-1, Page 2116
9		Magazine, Page 2115

CARRIAGE ASSEMBLY PARTS INDEX





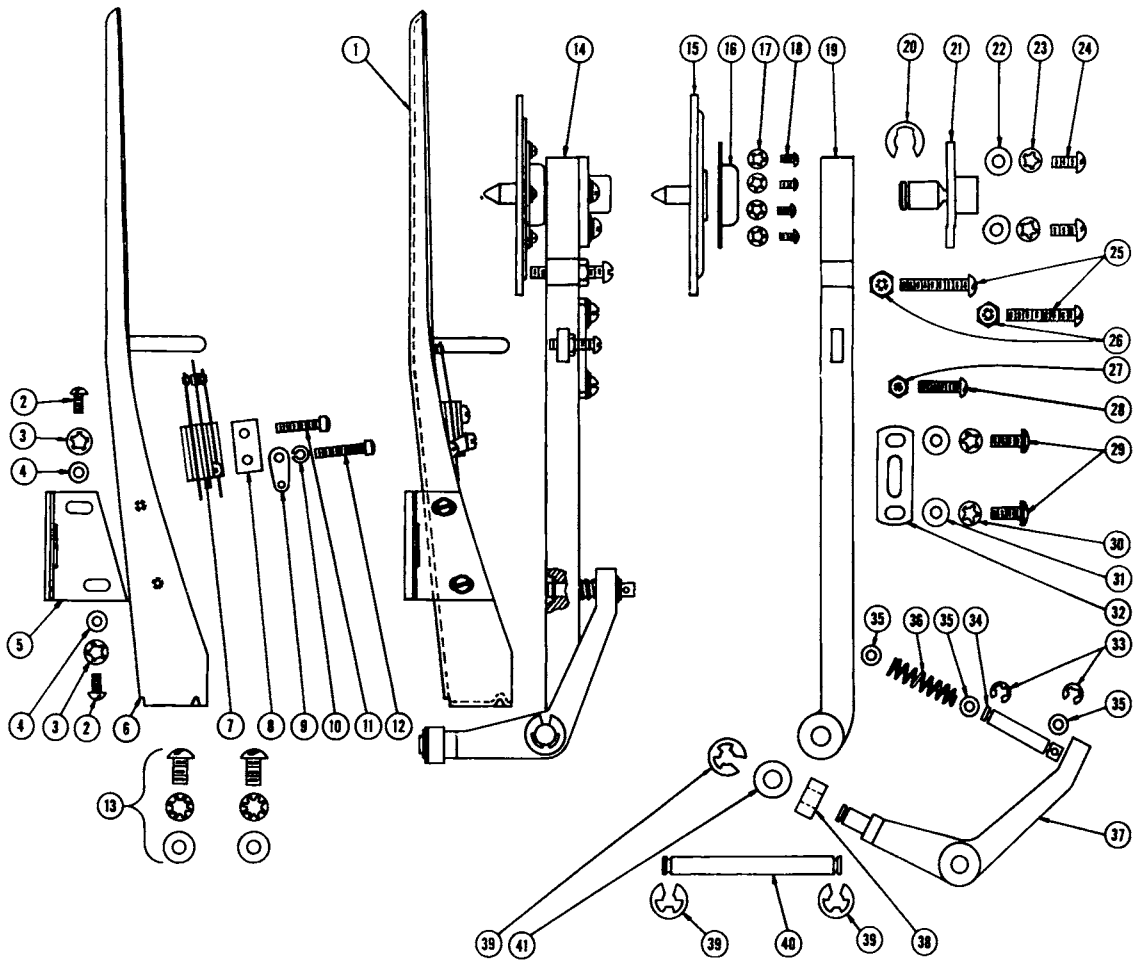


FIGURE 18. CLAMP ARM & STRIPPER PLATE

PARTS LIST

Item	Part No.	Description
1	A250239	Stripper Plate Assembly
2	71004	6-32 x 1/4 R.H. Machine Screw
3	73083	#6 Lock Washer
4	72000	Flat Washer
5	A250172	Safety Trip Stop, use with: A250087 Safety Trip Lever (Item 19, Fig. 28) A250015 Guide Plate (Item 18, Fig. 21)
	A250171	Safety Trip Stop, use with: A250272 Safety Trip Lever (Item 19, Fig. 28) A250170 Guide Plate (Item 18, Fig. 21)
6	A250249	Stripper Plate & Pin Assembly
7	A250105	Clamp Arm Switch
8	400597	Tension Plate
9	74006	Solder Lug
10	73023	#5 Lock Washer
11	71233	5-40 x 5/8 F.H. Machine Screw
12	71500	5-40 x 11/16 F.H. Machine Screw
13*	71032	10-32 x 3/8 R.H. Machine Screw
	72135	Flat Washer
	73089	#10 Lock Washer
14	A250231	Record Clamp Arm & Yoke Assembly
15	A250233	Record Clamp Disc Assembly
16	A250235	Clamp Disc Cover
17	73136	#4 Lock Washer
18	71071	4-36 x 3/16 R.H. Machine Screw
19	A250236	Record Clamp Arm
20	A250507	Snap Washer
21	A250234	Pivot Pin & Block Assembly
22	72240	Flat Washer
23	73137	#8 Lock Washer
24	71948	8-32 x 3/8 R.H. Machine Screw
25	71949	8-32 x 1 R.H. Machine Screw
26	70153	#8 Hex Nut
27	70152	6-32 Hex Nut
28	71262	6-32 x 5/8 R.H. Machine Screw
29	71081	8-32 x 7/16 R.H. Machine Screw
30	73082	#8 Lock Washer
31	72037	Flat Washer
32	A250171	Guide Plate
33	R231163	Retaining Ring
34	A250102	Record Clamp Spring Guide
35	72177	Flat Washer
36	A250103	Record Clamp Arm Spring
37	A250099	Record Clamp Arm Yoke Assembly
38	A250101	Roller
39	S229220	Retaining Ring
40	A250516	Shaft
41	72174	Flat Washer

*Mounting Hardware

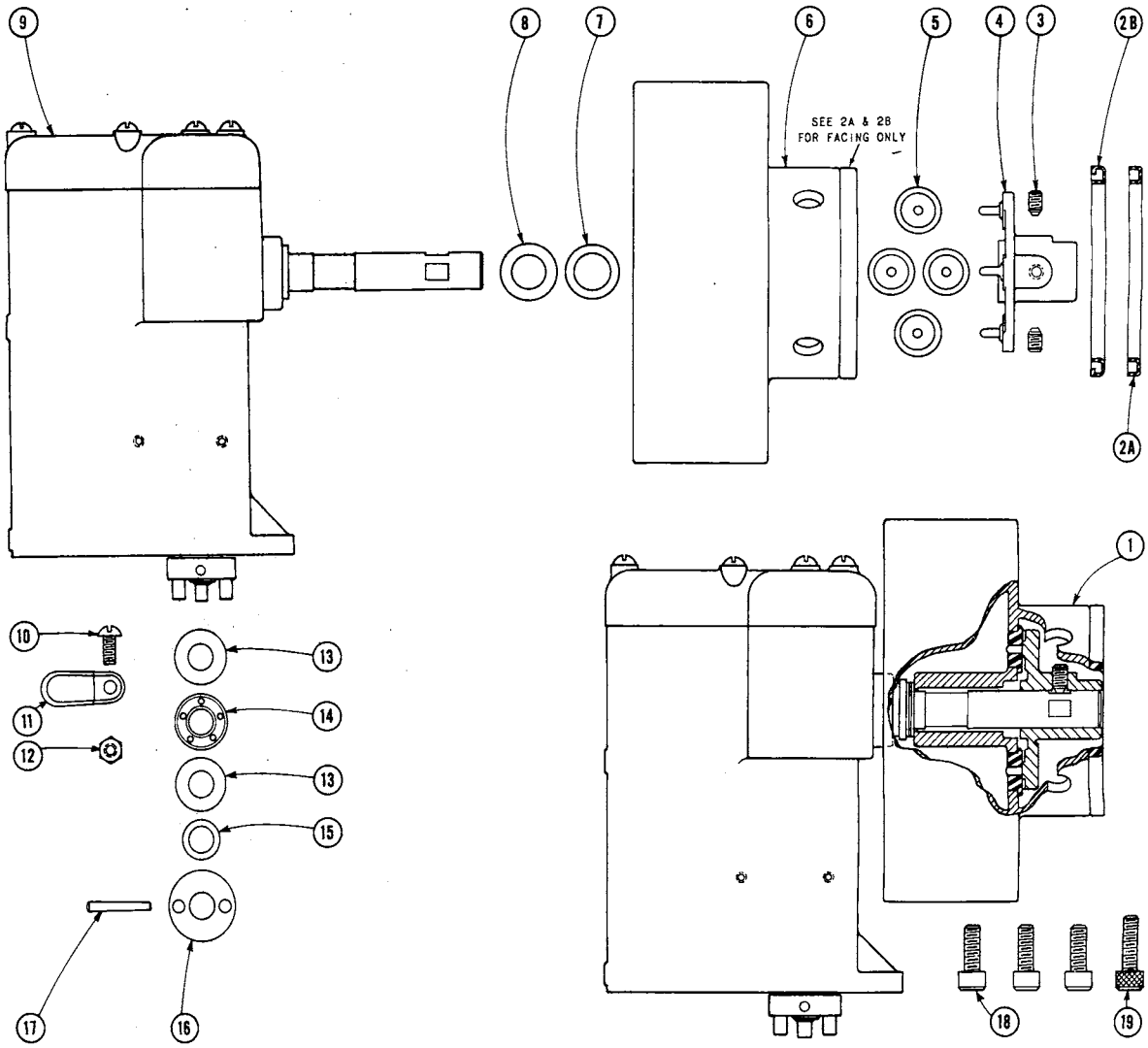


FIGURE 19. TURNTABLE & GEAR BOX ASSEMBLY

Item	Part No.	Description
1	A250360	Carriage Assembly - Turntable Shaft Section
2A	A250333	Flywheel Facing to Ser. #5158 incl.
2B	A250343	Flywheel Facing after Ser. #5158
3	75075	10-32 x 5/16 Socket Head Set Screw
4	A250306	Turntable Shaft Spider
5	A250334	Spider Grommet
6	A250363	Flywheel Assembly, with Facing
7	72176	Flat Washer .015"
	72224	Flat Washer .010"
8	A250330	Thrust Washer .141"
	A250342	Thrust Washer .130"
9	A250370	Gear Box & Worm Assembly - less Flywheel
10	71014	8-32 x 3/8 R.H. Machine Screw
11	F1960	Cable Clamp
12	70001	8-32 Hexagon Nut
13	H20085	Thrust Washer
14	H20513	Retainer Assembly
15	72254	Flat Washer .005"
16	A250322	Coupling Drive Collar & Pin Assembly
17	80065	Taper Pin
18	71628	1/4-20 x 5/8 Socket Head Cap Screw
19	71629	1/4-20 x 3/4 Socket Head Cap Screw

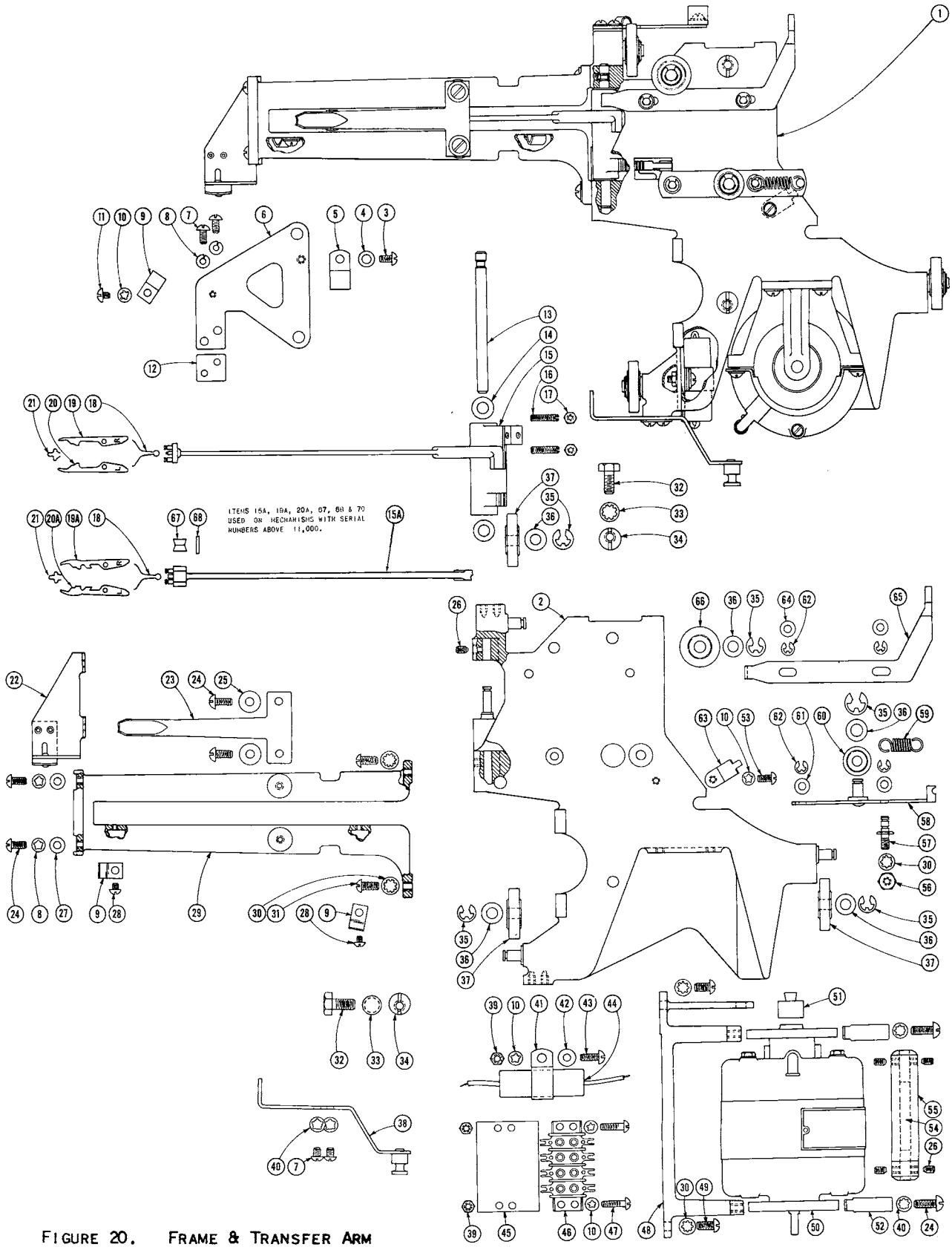


FIGURE 20. FRAME & TRANSFER ARM

PARTS LIST ON FOLLOWING PAGE, 2100

PARTS LIST FOR FIG. 20, PAGE 2099

Item	Part No.	Description
1	A250230	Carriage Assembly
2	A250135	Carriage Frame & Pin Assembly
3	71038	6-32 x 5/16 R.H. Machine Screw
4	72201	Flat Washer
5	A251287	Cable Clamp
6	A250152	Wheel Support Plate
7	71006	8-32 x 5/16 R.H. Machine Screw
8	73108	#8 Lock Washer
9	402098	Clamp
10	73083	#6 Lock Washer
11	71923	6-32 x 3/16 R.H. Machine Screw
12	A250153	Support Plate Shim
13	A250080	Transfer Arm Shaft
14	72174	Flat Washer .015"
	72250	Flat Washer .005"
15	A251396	Pickup Arm, complete Includes items 18,19,20,21
15a	A250260	Pickup Arm, complete Includes item 18,19a,20a,21,67,68
16	75072	8-32 x 5/8 Set Screw
17	70008	8-32 Hex. Nut
18	A251394	Spring
19	A251397	Lever, R.H.
19a	A250264	Lever, R.H.
20	A251398	Lever, L.H.
20a	A250265	Lever, L.H.
21	A251393	Retaining Clip
22	304266	Drive Bracket Assembly
23	A251395	Actuating Spring
24	71014	8-32 x 3/8 R.H. Machine Screw
25	72014	Flat Washer
26	75008	8-32 x 1/4 Set Screw
27	72115	Flat Washer
28	71039	6-32 x 1/8 R.H. Machine Screw
29	A251683	Contact Arm
30	73089	#10 Lock Washer
31	71061	10-32 x 1/2 R.H. Machine Screw
32	71586	1/4-20 x 1/2 Cap Screw
33	73092	1/4 Lock Washer
34	A251312	Stop
35	S229220	Retaining Ring
36	72174	Flat Washer
37	A250112	Roller
38	A250243	Bracket & Stud Assembly
39	70000	6-32 Hex. Nut
40	73082	#8 Lock Washer
41	600158	Clamp
42	72064	Flat Washer
43	71103	6-32 x 7/16 R.H. Machine Screw
44	86155	.1 Mfd. 600 v. Condenser
45	A250256	Insulator
46	A250255	Terminal Plate
47	71475	6-32 x 9/16 R.H. Machine Screw
48	A250107	Cradle
49	71061	10-32 x 1/2 R.H. Machine Screw
50	A250250	Motor Assembly (See Page 2094)
51	A250108	Support Plug
52	A250111	Clamp Bracket
53	71461	6-32 x 3/8 R.H. Machine Screw
54	A251114	Shaft Motor Cplg. Assembly
55	A251380	Motor Coupling Assembly
56	70078	10-32 Hex. Nut
57	A250056	Sliding Bar Stud
58	A250113	Sliding Bar Assembly
59	A250116	Sliding Bar Spring
60	A251269	Guide Roller
61	72177	Flat Washer
62	R231163	Retaining Ring
63	400047	Clamp
64	72223	Flat Washer .015"
65	A250017	Operating Bar
66	A250117	Guide Roller
67	A250262	Transfer Arm Roller
68	A250263	Transfer Arm Roller Pin

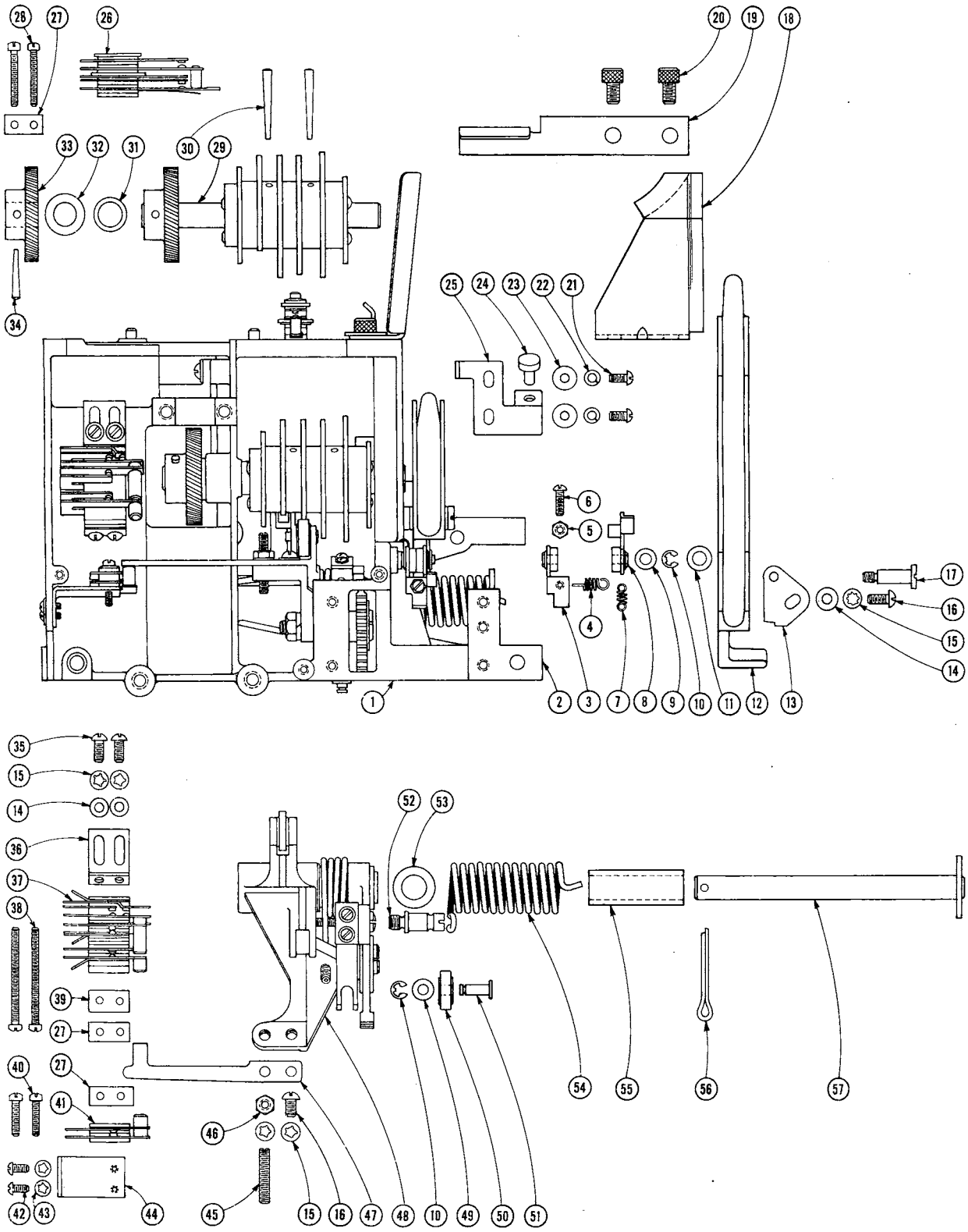


FIGURE 21. FRAME & CAM ASSEMBLY

PARTS LIST ON FOLLOWING PAGE, 2102

PARTS LIST FOR FIG. 21, PAGE 2101

Item	Part No.	Description
1	A250230	Carriage Assembly, complete
2	A250135	Carriage Frame & Pin Assembly
3	A250130	Operating Lever Assembly
4	A250091	Spring
5	70009	4-36 Hexagon Nut
6	71056	4-36 x 7/16 R.H. Machine Screw
7	A250129	Spring
8	A250128	Lock Lever Assembly
9	72255	Washer .010"
10	R231163	Retaining Ring
11	72210	Flat Washer .062"
12	A250133	Record Chute Assembly
13	A250018	Record Chute Adjusting Plate
14	72201	Flat Washer .031"
15	73082	#8 Lock Washer
16	71014	8-32 x 3/8 R.H. Machine Screw
17	A250048	Record Chute Stud
18	A250015	Record Guide Plate, use with: A250087 Safety Trip Lever (Item 5, Fig. 28) A250172 Stop Plate (Item 5, Fig. 18)
	A250270	Record Guide Plate, use with: A250272 Safety Trip Lever (Item 19, Fig. 28) A250171 Stop Plate (Item 5, Fig. 18)
19	A250248	Cover Bracket
20	71595	1/4-20 x 3/8 Cap Screw
21	71006	8-32 x 5/16 R.H. Machine Screw
22	73108	#8 Lock Washer
23	72181	Flat Washer 1/16 thick
24	A250699	Bumper
25	A250025	Record Chute Support
26	A250093	Mute Switch
27	400597	Tension Plate
28	71620	5-40 x 1 Fil. H. Machine Screw
29	A250178	Shaft & Cam Assembly, complete with Gear
30	80094	3/0 x 1-1/4 Taper Pin
31	A250063	Cam Shaft Spacer
32	A250064	Cam Shaft Thrust Washer
33	A250062	Cam Shaft Worm Gear, only
34	80065	3/0 x 7/8 Taper Pin
35	71962	8-32 x 5/16 R.H. Machine Screw
36	A250151	Switch Mtg. Bracket
37	A250241	Cam Follow Arm Switch
38	71964	5-40 x 1-3/4 Fil. H. Machine Screw
39	400601	Spacer
40	71233	5-40 x 5/8 Fil. H. Machine Screw
41	A250244	Auxiliary Mute Switch
42	71270	5-40 x 5/16 Fil. H. Machine Screw
43	73116	#5 Lock Washer
44	A250245	Auxiliary Mute Switch Bracket
45	75082	8-32 x 1 Set Screw
46	70001	8-32 Hexagon Nut
47	A250150	Cam Follow Arm Switch Lever
48	A250123	Cam Follow Arm & Segment Assembly (For breakdown see Fig. 22)
49	72177	Flat Washer
50	A250067	Roller, .685" diam., as required
	A250166	Roller, .695" diam., as required
	A250167	Roller, .705" diam., as required
	A250168	Roller, .675" diam., as required
51	A250169	Roller Pin
52	A250066	Cam Follow Arm Spring Stud
53	72227	Shim Washer, .005" thick, as required
	72228	Shim Washer, .010" thick, as required
	72229	Shim Washer, .015" thick, as required
	72245	Shim Washer, .020" thick, as required
54	A250073	Cam Follow Arm Spring
55	A250072	Cam Follow Arm Shaft Sleeve
56	80092	Cotter Pin
57	A250074	Cam Follow Arm Shaft Assembly

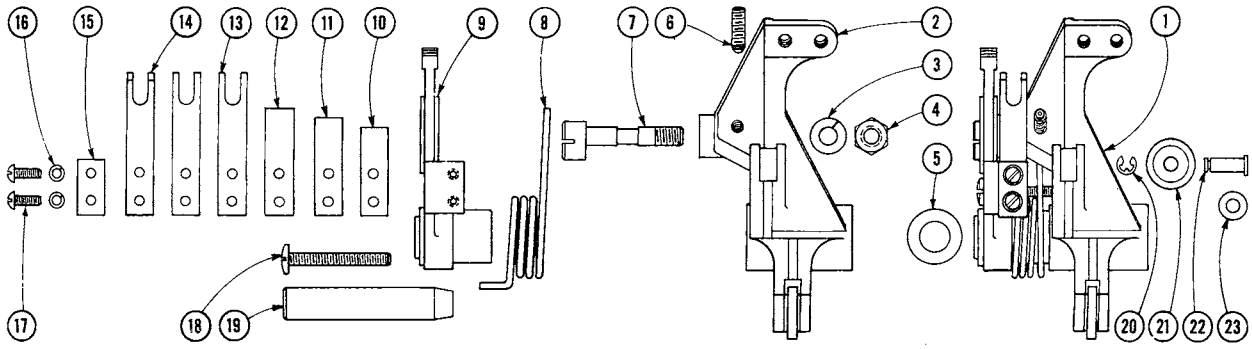


FIGURE 22. CAM FOLLOW ARM ASSEMBLY

PARTS LIST

Item	Part No.	Description
1	A250123	Cam Follow Arm and Segment Assembly, complete
2	A250065	Cam Follow Arm & Roller Assembly
3	73087	1/4" Lock Washer
4	70039	1/4-28 Hexagon Nut
5	72227	Shim Washer .005" thick, as required
	72228	Shim Washer .010" thick, as required
	72229	Shim Washer .015" thick, as required
	72245	Shim Washer .020" thick, as required
6	75098	10-32 x 3/8 Set Screw
7	A250069	Adjustment Screw
8	A250068	Segment Gear Spring
9	A250070	Gear Segment Assembly
10	A250137	Gear Segment Booster Spring
11	A250158	Gear Segment Spring
12	A250138	Gear Segment Spring, intermediate
13	A250036	Gear Segment Spring
14	A250139	Gear Segment Spring, Upper
15	A250118	Metal Spacer
16	73026	#4 Lock Washer
17	71028	4-36 x 3/8 R.H. Machine Screw
18	71966	8-32 x 1-5/16 B.H. Machine Screw
19	A250124	Assembly Pin
20	R231163	Retaining Ring
21	A250067	Roller, .685" diam., one used as required
	A250166	Roller, .695" diam., one used as required
	A250167	Roller, .705" diam., one used as required
	A250168	Roller, .675" diam., one used as required
22	A250169	Roller Pin
23	72177	Flat Washer

NOTE: Items 5, 20, 21, 22 & 23 not supplied with Complete Assembly, Item 1. Order as required.

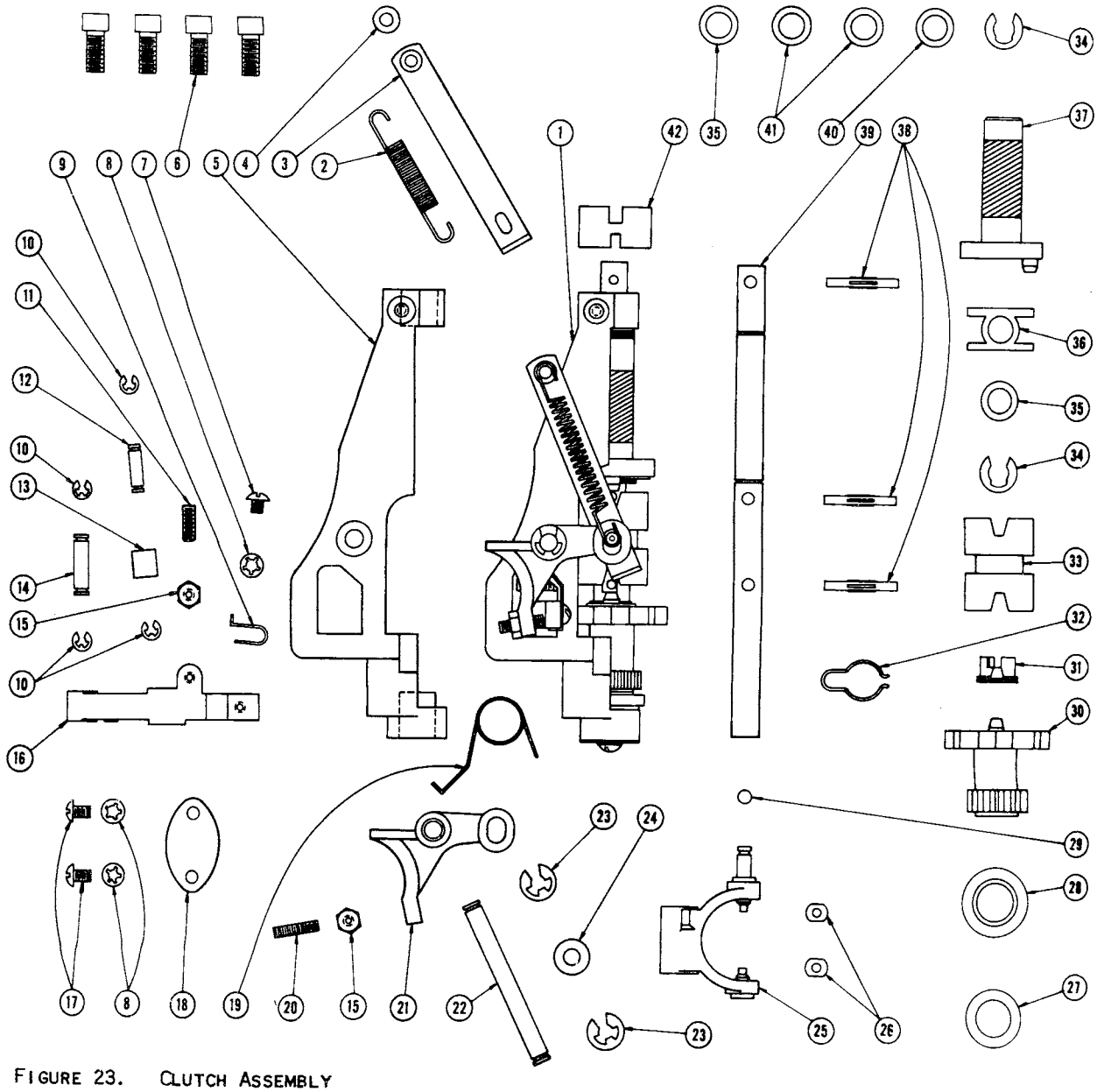


FIGURE 23. CLUTCH ASSEMBLY

PARTS LIST

Item	Part No.	Description
1	A250500	Clutch Assembly
2	A250539	Clutch Spring
3	A250831	Connecting Rod Assembly
4	72177	Flat Washer
5	A250538	Clutch Housing Assembly, complete with Bearings & Pin
6	71596	1/4-20 x 9/16 Cap Screw, (Mounting Hardware)
7	71041	8-32 x 3/16 *R.H. Machine Screw*
8	73082	#8 Lock Washer
9	A250508	Clutch Detent Arm Spring
10	R231163	Retaining Ring
11	75064	8-32 x 1/2 Set Screw
12	A250519	Detent Arm Roller Pin
13	A250518	Detent Arm Roller
14	A250520	Detent Arm Pivot Pin
15	70001	8-32 Hexagon Nut
16	A250506	Clutch Detent Arm
17	71001	8-32 x 1/4 R.H. Machine Screw
18	A250509	Thrust Plate
19	A250141	Lever Retarding Spring
20	75050	8-32 x 5/8 Set Screw
21	A250504	Clutch Yoke Lever
22	A250516	Clutch Yoke Shaft
23	S229220	Retaining Ring
24	72174	Flat Washer
25	A250513	Clutch Yoke Assembly, complete with Pins
26	A250529	Bearing Block
27	A250537	Thrust Washer
28	A250544	Spacer
29	A250125	Steel Ball
30	A250543	Clutch Sprocket Assembly
31	A250503	Clutch Engaging Member
32	A250532	Clutch Engaging Member Spring
33	A250531	Clutch Member
34	A250507	Snap Washer
35	72217	Flat Washer, .010" thick, used as required
36	A250548	Spring Washer
37	A250527	Worm Assembly
38	A250523	Shaft Pin
39	A250522	Clutch Shaft
40	72175	Flat Washer, .031" thick, used as required
41	72216	Flat Washer, .015" thick, used as required
42	A250502	Coupling Driven Collar

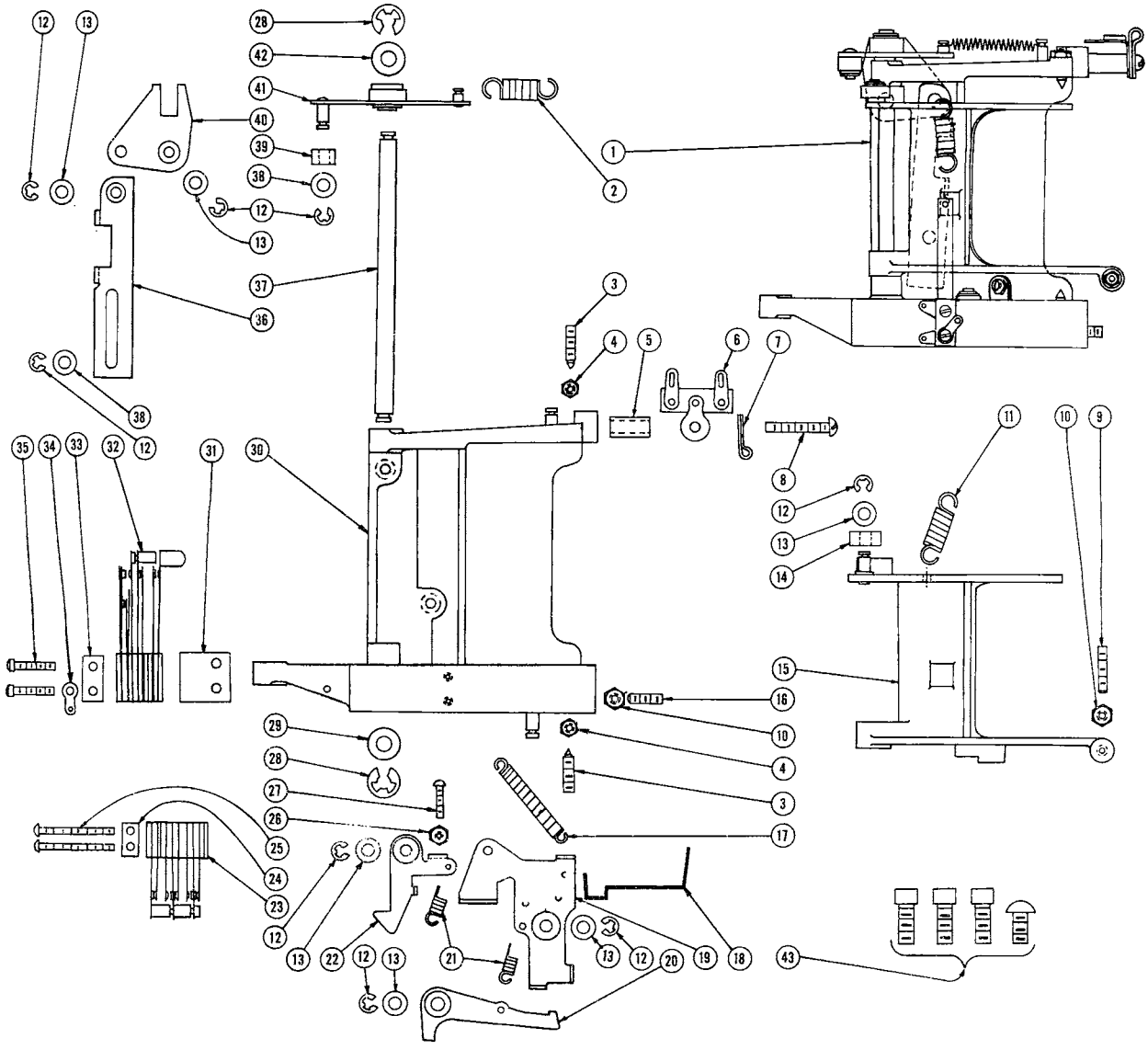


FIGURE 24. PICKUP ARM BEARING BRACKET ASSEMBLY

PARTS LIST ON FOLLOWING PAGE, 2106

PARTS LIST FOR FIG. 24, PAGE 2105

Item	Part No.	Description
1	A250730	Pickup Arm Bearing Bracket Assembly
2	A251436	Spring
3	A250636	Pickup Arm Yoke Pivot Screw
4	70008	8-32 Hexagon Nut
5	A250547	Spacer
6	A250742	Terminal Strip
7	A251366	Plastic Clamp
8	71235	8-32 x 1 R.H. Machine Screw
9	75074	8-32 x 3/4 Round Point Set Screw
10	70001	8-32 Hexagon Nut
11	A251376	Control Lever Spring
12	R231163	Retaining Ring
13	72177	Flat Washer
14	A250629	Control Lever Roller
15	A250633	Tone Arm Control Lever Assembly
16	75064	8-32 x 1/2 Oval Point Set Screw
17	A250630	Booster Spring Plate Spring
18	A250631	Booster Spring, L.H. Position
19	A250665	Booster Spring Plate Assembly
20	A250686	Release Lever Assembly
21	A250091	Spring
22	A250713	Lock Lever Assembly
23	A250737	Pickup Arm Shift Bar Switch
24	A250743	Tension Plate
25	71971	3-48 x 1-1/4 R.H. Machine Screw
26	70009	4-36 Hexagon Nut
27	71076	4-36 x 1/2 R.H. Machine Screw
28	S229220	Retaining Ring
29	72250	Flat Washer
30	A250732	Bearing Bracket & Pin Assembly
31	A250704	Armite Insulator
32	A250740	Control Lever Switch
33	400597	Tension Plate
34	74007	Lug
35	71620	5-40 x 1 Fil. H. Machine Screw
36	A250741	Shifting Bar Assembly
37	A250681	Bearing Bracket Shaft
38	72255	Flat Washer
39	A250684	Roller
40	A250680	Bell Crank Assembly
41	A250685	Cam Lever Assembly
42	72174	Flat Washer
Mounting Hardware		Not supplied with Assembly, order as required
43	71628	1/4-20 x 5/8 Socket Hd. Cap Screw
	71625	1/4-20 x 1/2 R.H. Machine Screw

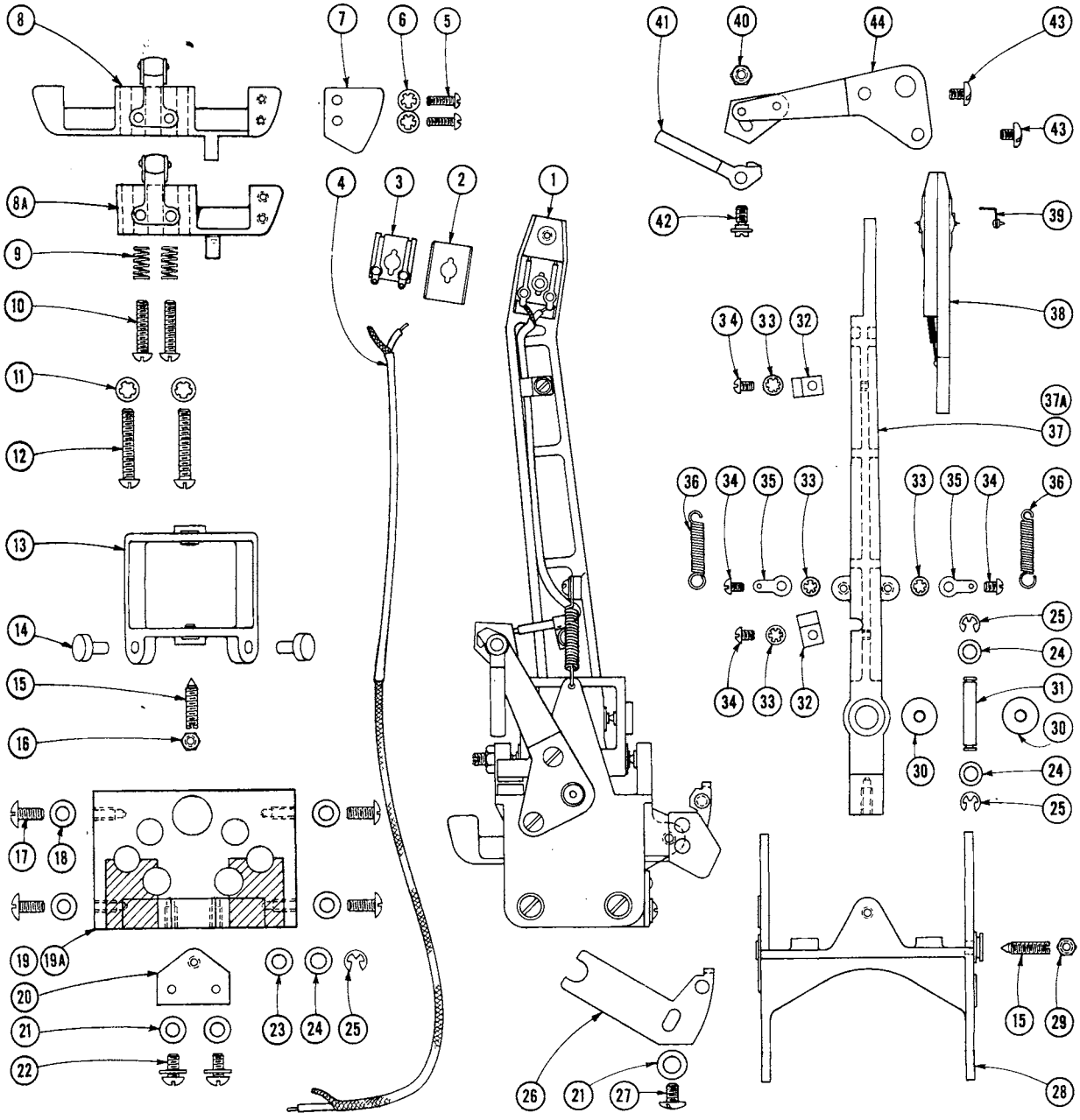


FIGURE 25. CRADLE & PICKUP ARM ASSEMBLY

PARTS LIST ON FOLLOWING PAGE, 2108

PARTS LIST FOR FIG. 25, PAGE 2107

Item	Part No.	Description
1	A250734	Cradle & Pickup Arm Assembly
2	A250623	Contact Plate Insulator
3	A250653	Contact Plate Assembly
4	A250663	Pickup Cable
5	71678	5-40 x 3/8 R.H. Machine Screw
6	73116	#5 Lock Washer
7	A250615	Shifting Plate
8	A250692-1	Pickup Arm Counter Weight Assembly
8a*	A250692-2	Pickup Arm Counter Weight Assembly
9	A250652	Adjustment Screw Spring
10	71926	6-32 x 3/4 Phillips O.H. Machine Screw
11	73082	#8 Lock Washer
12	71235	8-32 x 1 R.H. Machine Screw
13	A250693	Pickup Arm Yoke Assembly
14	A250699	Bumper
15	A250636	Pivot Screw
16	70001	8-32 Hexagon Nut
17	71049	8-32 x 3/8 Oval B.H. Machine Screw
18	72004	Flat Washer
19	A250606-1	Counter Weight
19a*	A250606-2	Counter Weight (shaded portions cut away)
20	A250691	Bracket Assembly
21	72113	Flat Washer
22	71760	8-32 x 5/16 R.H. Fastener
23	A250684	Roller
24	72177	Flat Washer
25	R231163	Retaining Ring
26	A250711	Adjustment Lever Assembly
27	71464	8-32 x 1/4 R.H. Machine Screw
28	A250688	Cradle Assembly
29	70008	8-32 Hexagon Nut
30	A250647	Arm Mounting Cushion
31	A250646	Pickup Arm Shaft
32	A250709	Cable Clamp
33	73083	#6 Lock Washer
34	71036	6-32 x 3/16 R.H. Machine Screw
35	74007	Lug
36	A250738	Pickup Arm Spring
37	A250736-1	Pickup Arm (with solid web)
37a*	A250736-2	Pickup Arm (with cut out webs)
38	A251620	Pickup Cartridge (Complete with Styluses)
39	A251621	Replaceable Sapphire Stylus, only
40	70000	6-32 Hexagon Nut
41	A250719	Pickup Arm Trip Pawl
42	A250717	Shoulder Screw
43	71195	8-32 x 3/16 B.H. Machine Screw
44	A250721	Pickup Arm Trip Bracket Assembly

*8a, 19a, and 37a are light weight and should be used together

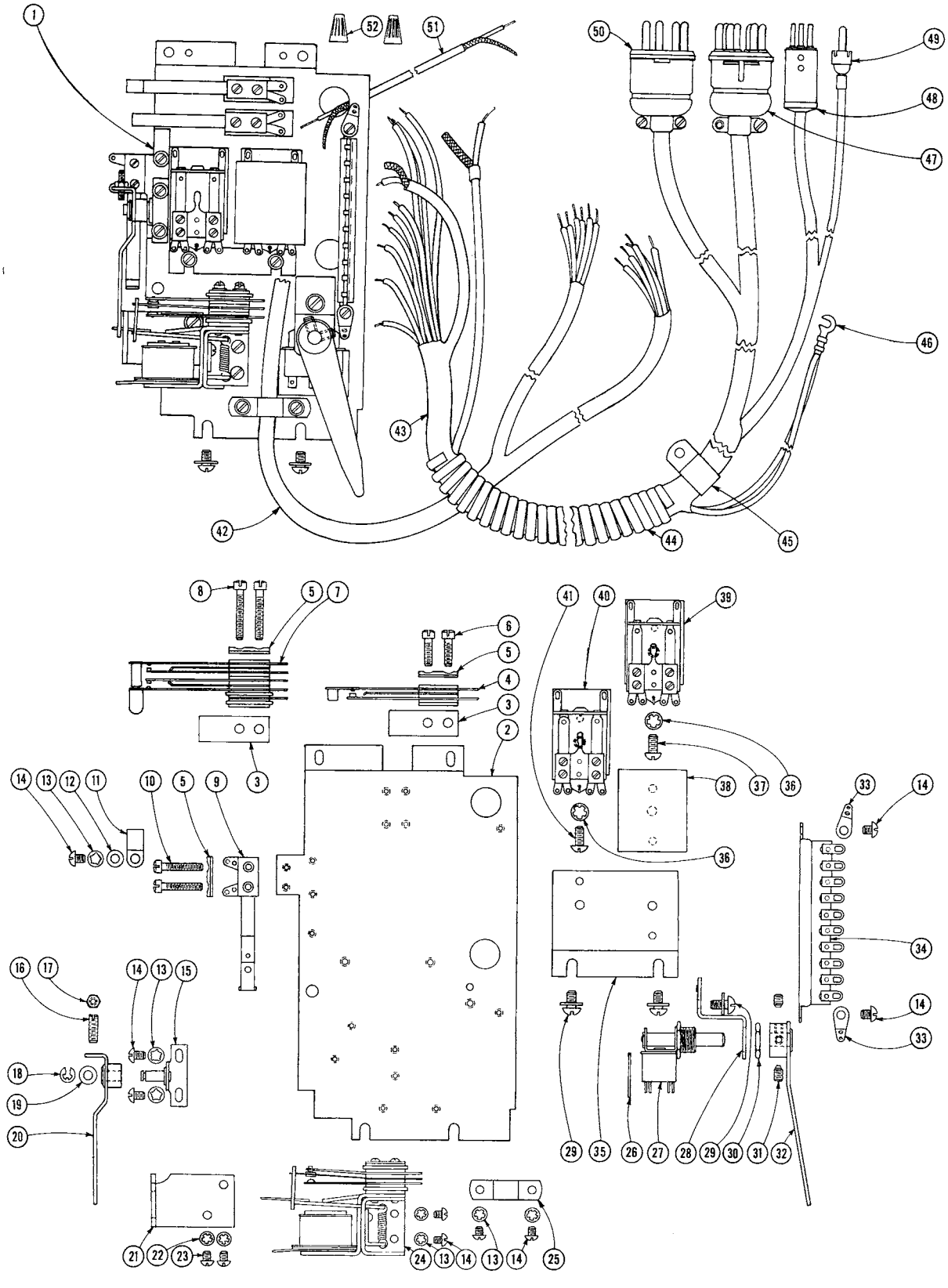


FIGURE 26. SWITCH PLATE & CABLE ASSEMBLY

PARTS LIST ON FOLLOWING PAGE, 2110

PARTS LIST FOR FIG. 26, PAGE 2109

Item	Part No.	Description
1	A250990	Switch Plate Assembly
2	A251006	Switch Plate
3	A251002	Insulator
4	A250993	Interlock Lever Switch
5	400597	Tension Plate
6	71242	5-40 x 1/2 Fil. H. Machine Screw
7	A250992	Vertical Clutch Switch
8	71620	5-40 x 1 Fil. H. Machine Screw
9	A250925	Trip Switch
10	71636	5-40 x 3/4 Fil. H. Machine Screw
11	A250952	Cable Clamp
12	72000	Flat Washer
13	73083	#6 Lock Washer
14	71036	6-32 x 3/16 R.H. Machine Screw
15	A250929	Bracket Assembly
16	75085	6-32 x 1/2 Set Screw
17	70000	6-32 Hexagon Nut
18	R231163	Retaining Ring
19	72177	Flat Washer
20	A250931	Relay Lock Lever Assembly
21	A250944	Retainer Bracket
22	73082	#8 Lock Washer
23	71041	8-32 x 3/16 R.H. Machine Screw
24	A250926	Reversing Relay
24	A250953	Switch Spring & Armature Assembly
24	A250954	Tail Spring
24	A250955	Coil & Frame Assembly
25	11171	Cable Clamp
26	A251005	Insulator
27	A250911	Reversing Switch, with Nuts
28	A250905	Reversing Switch Bracket
29	71760	8-32 x 5/16 Fastener
30	70054	15/32-32 Hexagon Nut, 3/32 thick x 9/16 A.F.
31	75068	8-32 x 3/16 Set Screw
32	A250939	Reversing Switch Lever Assembly
33	74023	Terminal Lug
34	304142	Terminal Strip
35	A251003	Relay Mtg. Bracket
36	73108	#8 Lock Washer
37	71081	8-32 x 7/16 R.H. Machine Screw
38	A251004	Relay Shield
39	A250996	Left Side Relay
39	A250987	Switch Spring & Armature Assembly
39	A250988	Tail Spring
39	A250989	Coil & Frame Assembly
40	A250995	Right Side Relay
40	A250956	Switch Spring & Armature Assembly
40	A250957	Tail Spring
40	A250958	Coil & Frame Assembly
41	71014	8-32 x 3/8 R.H. Machine Screw
42	A250994	Internal Cable
43	A250998	Control Cable
44	A250999	Plastic Covering
45	602435	Cable Clamp
46	74102	Solder Lug
47	S21117	7-Prong Plug
48	A250938	3-Prong Plug
49	K228440	Single Prong Plug
50	F7407	4-Prong Plug
51	A250966	Shielded Mute Lead
52	404322	Wire Nut

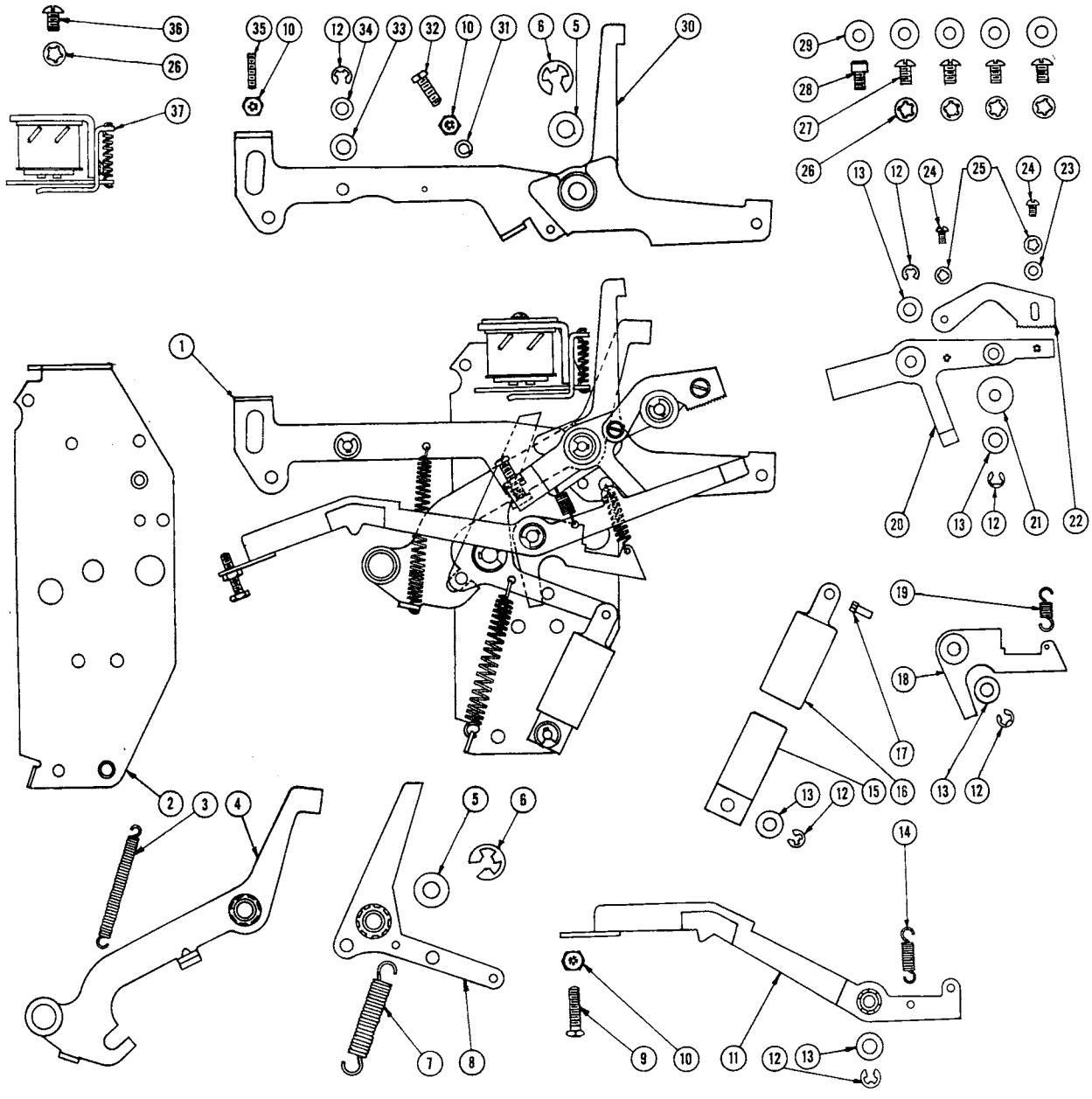


FIGURE 27. TRIP MECHANISM ASSEMBLY

PARTS LIST ON FOLLOWING PAGE, 2112

PARTS LIST FOR FIG. 27, PAGE 2111

Item	Part No.	Description	
1	A250880	Trip Mechanism Assembly	
2	A250809	Mounting Plate Assembly	
3	A250833	Clutch Shifting Lever Spring	
4	A250881	Relay Trip Interlock Lever Assembly	
5	72174	Flat Washer	
6	S229220	Retaining Ring	
7	A250830	Relay Trip Lever Spring	
8	A250862	Relay Trip Lever Assembly	
9	71903	Adjusting Screw	
10	70000	6-32 Hexagon Nut	
11	A250896	Cycling Lever	
12	R231163	Retaining Ring	
13	72177	Flat Washer	
14	A250836	Cycling Switch Lever Spring	
15	A250827	Dash Pot Piston	
16	A250801	Dash Pot Cylinder	
17	A250826	Dash Pot Cylinder Pin	
18	A250820	Trip Switch Lever Assembly	
19	A250821	Trip Switch Lever Spring	
20	A250873	Trip Lever Assembly	
21	L230158	Trip Lever Roller	
22	A250870	Trip Lever Plate	
23	72051	Flat Washer	
24	71071	4-36 x 3/16 R.H. Machine Screw	
25	73085	#4 Lock Washer	
26	73082	#8 Lock Washer	
27	71001	8-32 x 1/4 R.H. Machine Screw	} Mounting Hardware
28	71248	8-32 x 1/4 Cap Screw	
29	72181	Flat Washer	
30	A250856	Clutch Shifting Lever Assembly	
31	73122	#6 Lock Washer	
32	71901	Adjustment Screw	
33	A250829	Clutch Shifting Lever Roller	
34	72222	Flat Washer	
35	75085	6-32 x 1/2 Set Screw	
36	71006	8-32 x 5/16 R.H. Machine Screw	
37	A250885	Trip Relay Assembly, complete	
	A250890	Tail Spring	
	A250891	Armature Assembly	
	A250892	Coil & Frame Assembly	

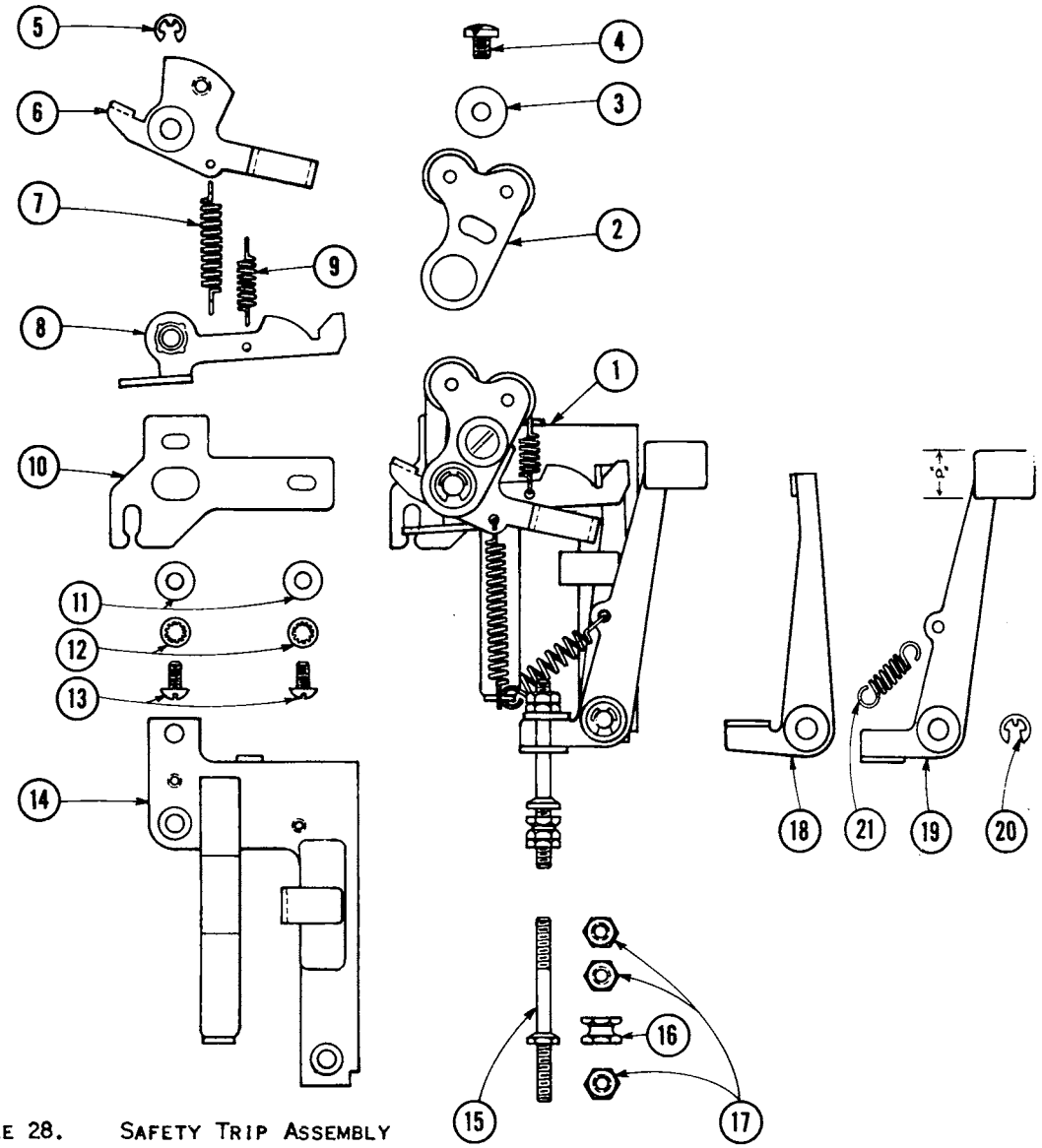


FIGURE 28. SAFETY TRIP ASSEMBLY

PARTS LIST

Item	Part No.	Description
1	A250175	Safety Trip Assembly
2	A250147	Mute Switch Actuator Plate Assembly
3	72004	Flat Washer
4	71195	8-32 x 3/16 B.H. Machine Screw
5	R231163	Retaining Ring
6	A250089	Catch Lever Assembly
7	A251188	Spring
8	A250174	Safety Trip Lock Lever Assembly
9	A250258	Safety Trip Lock Lever Spring
10	A250156	Cycling Switch Lever Guide Bracket
11	72177	Flat Washer
12	73083	#6 Lock Washer
13	71004	6-32 x 1/4 R.H. Machine Screw
14	A250082	Safety Trip Lever Plate Assembly
15	A250162	Adjustment Screw
16	A250161	Guide Nut
17	70144	Adjustment Nut
18	A250086	Safety Trip Release Lever Assembly
19	A250087	Safety Trip Lever Assembly - "a" = 15/32", use with: A250015 Guide Plate (Item 18, Fig. 21) A250172 Stop Plate (Item 5, Fig.18)
	A250272	Safety Trip Lever - "a" = 1-31/32" use with: A250270 Guide Plate (Item 18, Fig.21) A250171 Stop Plate (Item 5, Fig. 18)
20	R231163	Retaining Ring
21	A250091	Operating Spring

MOUNTING HARDWARE

	71038	6-32 x 5/16 R.H. Machine Screw
	73083	#6 Lock Washer
	71006	8-32 x 5/16 R.H. Machine Screw
	73082	#8 Lock Washer

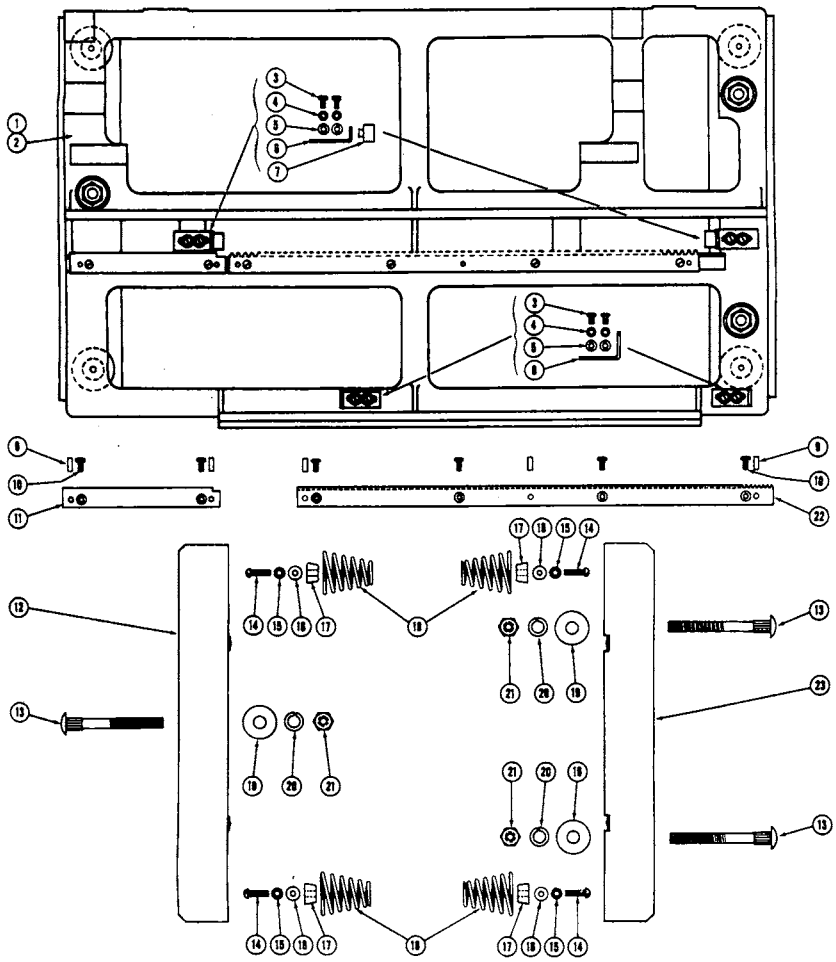


FIGURE 29. BASE ASSEMBLY

PARTS LIST

Item	Part No.	Description
1	251619	Base Assembly
2	251624	Base Casting, only
3	71566	8-32 x 5/16" B.H. Machine Screw
4	73082	Lock Washer
5	72113	Flat Washer
6	251234	Carriage Limit Stop
7	250108	Rubber Plug
8	251637	Rev. Switch Stop
9	251643	Dowel
10	71034	8-32 x 3/8" B.H. Machine Screw
11	251623	Guide Rail Segment
12	251641	Chassis Mtg. Strip Assembly, L.H.
13	251310	Shipping Mtg. Bolt
14	71487	10-32 x 3/4" R.H. Machine Screw
15	73089	Lock Washer
16	72136	Flat Washer
17	251640	Spring Retainer
18	251639	Chassis Mtg. Spring
19	72248	Flat Washer
20	73140	Lock Washer
21	70154	Hexagon Nut
22	251622	Gear Rack
23	251662	Chassis Mtg. Strip Assembly, R.H.

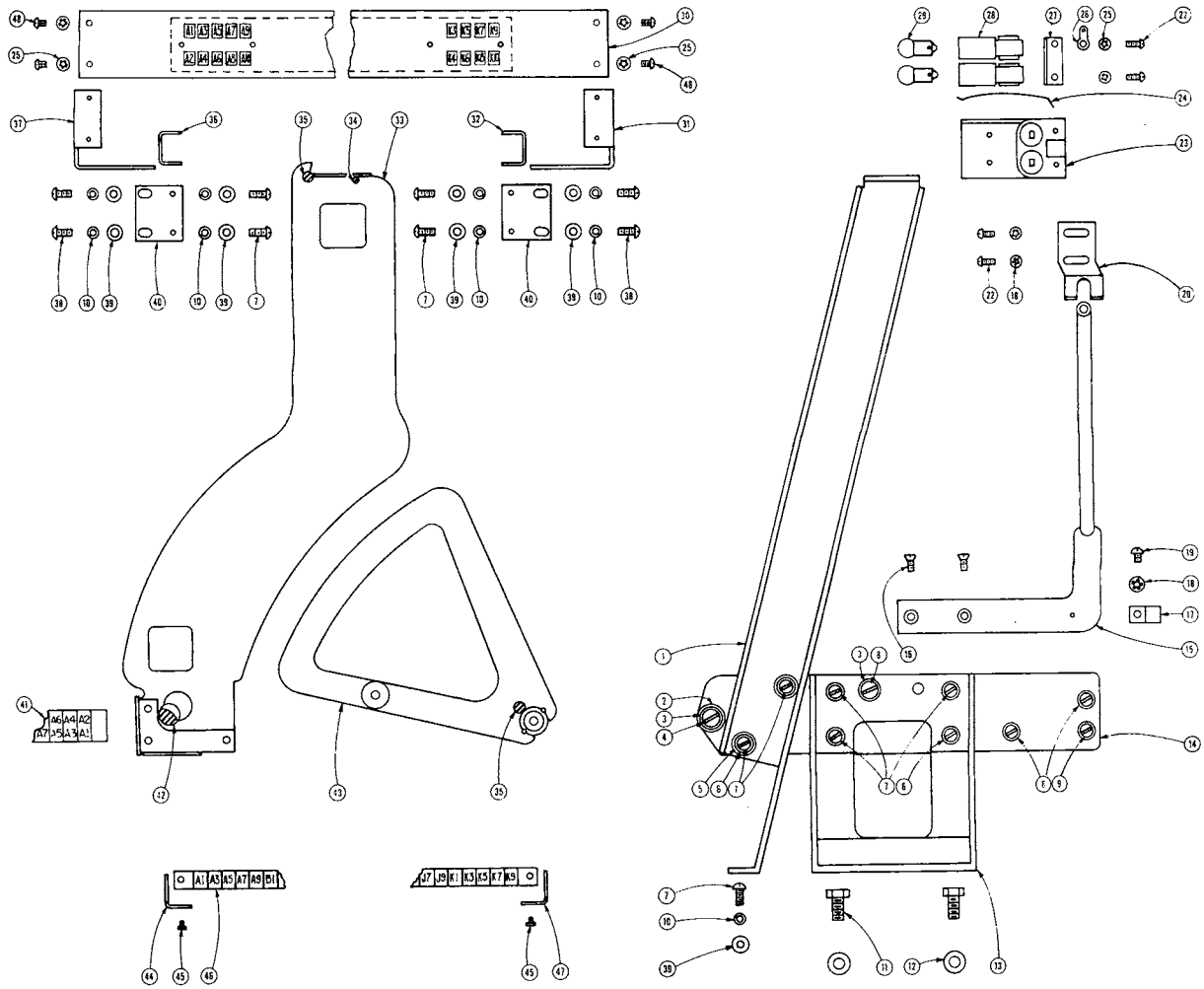


FIGURE 30. MAGAZINE ASSEMBLY

Item	Part No.	Description
1	251676	End Bracket, Right Side
	251677	End Bracket, Left Side
2	72014	.500 O.D. x .201 I.D. Flat Washer
3	73138	#10 Lock Washer
4	71741	10-32 x 3/8 R.H. Machine Screw
5	72022	.500 x .172 Flat Washer
6	73137	#8 Lock Washer
7	71948	8-32 x 3/8 R.H. Machine Screw
8	71960	10-32 x 1/2 R.H. Machine Screw
9	71961	8-32 x 1/2 R.H. Machine Screw
10	73139	#8 Kantlink Lock Washer
11	71234	1/4-20 x 1/2 Hex. Hd. Cap Screw
12	72171	.265 x .500 x .062 Flat Washer
13	251625	Magazine Support Bracket
14	251626	Magazine Support Plate
15	251649	Indicator Drive Tube & Bracket
16	71462	8-32 x 3/8 F.H. Machine Screw
17	402098	Cable Clamp
18	73083	#6 Lock Washer
19	71923	6-32 x 3/16 R.H. Machine Screw
20	251635	Indicator Slide Drive Bracket
22	71481	6-32 x 5/16 R.H. Machine Screw
23	251630	Selection Indicator Slide
24	251612	Indicator Slide Spring
25	73088	#6 Lock Washer
26	74007	Solder Lug

Item	Part No.	Description
27	251634	Indicator Light Bracket
28	250934	Pilot Light Socket
29	10242	#51 Mazda Lamp Bulb
30	251647	Indicator Channel Assembly
	251631	Number Strip, only
	79078	Rivet
	72005	Flat Washer
31	251632	Indicator Channel Bracket, R.H.
32	251663	Filler Plate Mounting Bracket, R.H.
33	251249	Loading Fin Assembly
34	251276	Record Cushion
35	251211	Rubber Cushion Mount
36	251664	Filler Plate Mounting Bracket, L.H.
37	251633	Indicator Channel Bracket, L.H.
38	71970	8-32 x 7/16 R.H. Machine Screw
39	72022	Flatwasher
40	251674	Tie Plate
41	251652	Number Strip
42	251254	Record Support Cushion
43	251673	Record Separator Assembly, Finished
44	251682	End Bracket, L.H.
45	71965	4-36 x 1/8 B.H. Machine Screw
46	251680	Number Strip Angle
47	251681	End Bracket, R.H.
48	71501	6-32 x 3/16 R.H. Machine Screw

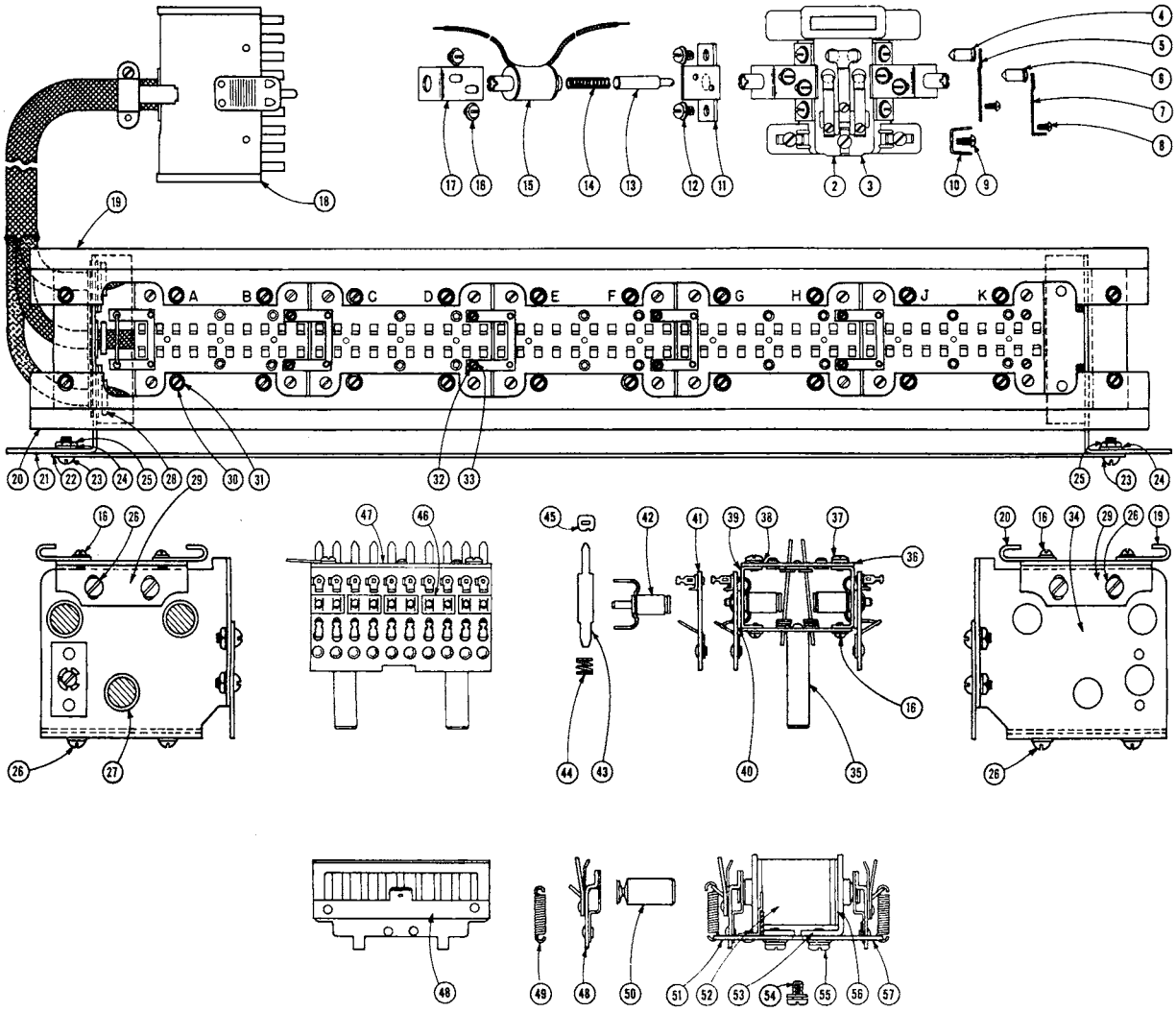


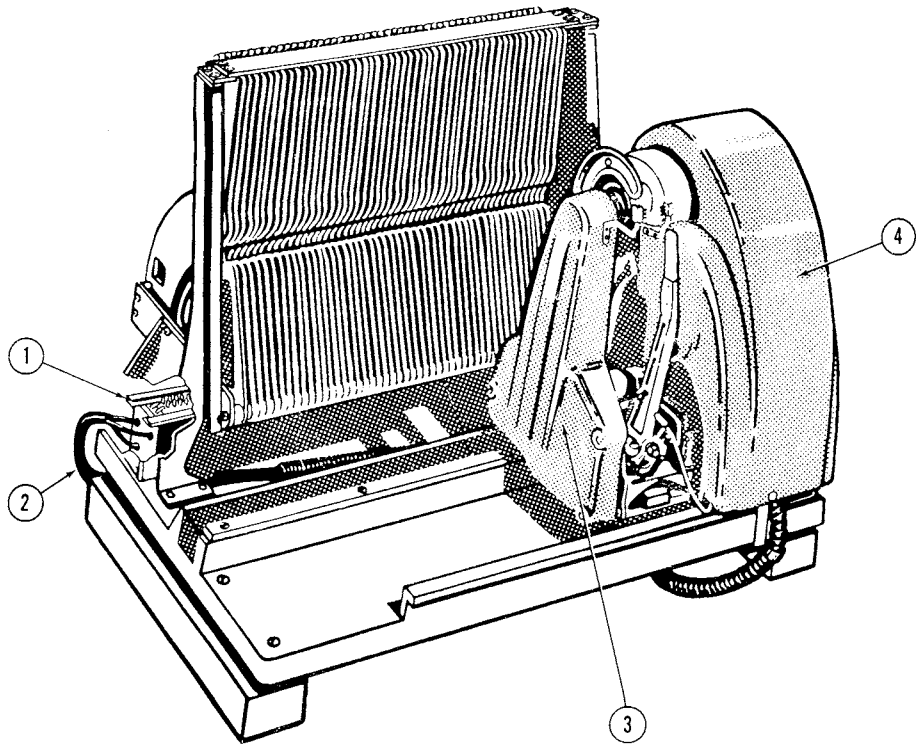
FIGURE 31. SOLENOID ASSEMBLY

Item	Part No.	Description
1	304200	Solenoid Assembly
2	304258	Contact Block Assembly
3	304240	Contact Block
4	304263	Dressing Contact
5	304262	Spring, Dressing Contacts
6	304256	Contact, Selector Switch
7	A251268	Contact Spring, Selector Switch
8	76003	2-56 x 3/16 R.H. Self-tapping Screw
9	76055	#4 x 1/4 R.H. Self-tapping Screw
10	74104	Solder Lug
11	304243	Cancel Coil Mtg. Bracket
12	71759	Sems Fasteners
13	304245	Pin & Plunger Assembly
14	304248	Plunger Return Spring
15	304242	Cancel Coil Assembly
16	71793	Sems Fasteners
17	304244	Cancel Coil End Bracket
18	304261	Plug & Cable Assembly
19	304234	Guide Rail, Contact Block
20	304233	Guide Rail, Contact Block
21	304235	Right End Bracket Assembly
22	304257	Shield Panel
23	71014	8-32 x 3/8 R.H. Machine Screw
24	73082	#8 Lock Washer
25	70001	Hexagon Nut
26	71760	Sems Fastener
27	78103	Grommet
28	301146	Cable Clamp
29	304255	Rail End Bracket

Item	Part No.	Description
30	71917	4-40 x 1/4 B.H. Machine Screw
31	73026	#4 Lock Washer
32	71465	6-32 x 3/8 B.H. Machine Screw
33	73095	#2 Lock Washer
34	304237	Left Selector Support Bracket
35	304216	Armature Hinge Plate Assembly
36	304212	Armature Guide Plate Assembly
37	71917	4-40 x 3/16 B.H. Machine Screw
38	73026	#4 Lock Washer
39	304207	Selector Channel
40	304206	Terminal Board Spacer
41	304204	Terminal Board Assembly
42	304208	Coil
43	304210	Armature
44	304209	Spring
45	304211	Contact Washer
46	304156	Speed Nut, Twin Hole
47	304202	Selector Coil & Armature Assembly
48	304220	Hinge Plate Assembly
49	304259	Spring
50	304230	Solenoid Plunger
51	304225	Solenoid Mtg. Plate Assembly
52	304228	Group Solenoid
53	304229	Solenoid Bracket
54	71793	Sems Fastener
55	71805	Sems Fastener
56	72256	Rubber Washer
57	304219	Group Solenoid Assembly

SELECT-O-MATIC "100" MECHANISM

TYPE 100S7-L6



The Select-O-Matic "100" Mechanism, Type 100S7-L6, is designed for use with the Select-O-Matic "100" R.C. Special, Type HM100A. All information and adjustments of this mechanism are the same as given for the Type 100S2-L6 Mechanism on pages 2051 to 2091, inclusive.

Parts lists for the 100S2-L6 Mechanism, pages 2092 to 2116, apply to the Type 100S7-L6 except as follows:

Item	Part No.	Description
1	304280	Solenoid Assembly, Type 100SA-2
2	304281	Cable & Plug Assembly
	304282	Cable, only
3	251759	Clamp Arm Cover
4	251760	Cover

ADJUSTMENT INDEX

45 r.p.m.
Select-O-Matic "100" Mechanism
Type 145S2-L6

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Clamp Arm Switch 2171
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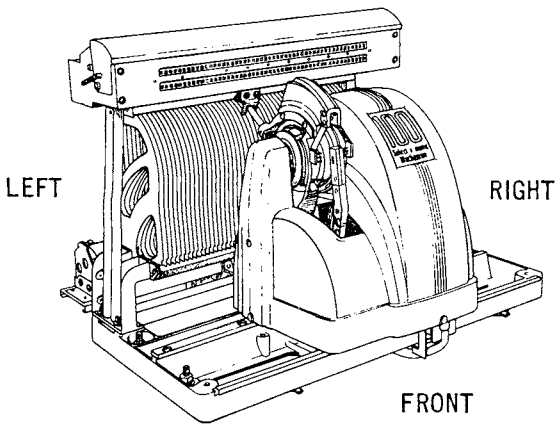
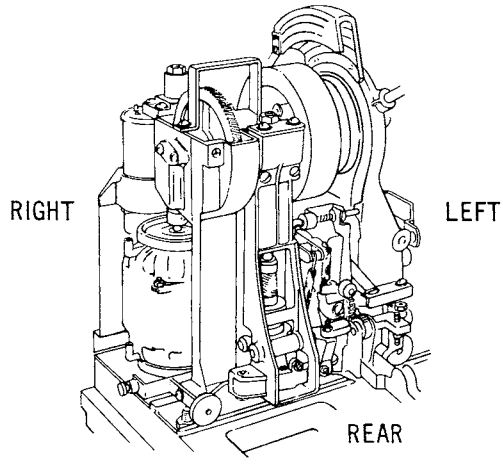
ADJUSTMENT PREFACE

The adjustments for the 45 r.p.m. Select-O-Matic "100" Mechanism, Type 145S2-L6. are given on the following pages. Each adjustment is associated with a step-by-step procedure which, if followed, will result in correct adjustment and normal operation. These individual adjustments may be made in any sequence but they are, in some instances, dependent on or affected by others. Because of this, they are arranged in a sequence which may be followed from page to page if a completely misadjusted mechanism is to be placed in operating condition. If an individual adjustment is to be checked or made, careful attention should be given to notes indicating dependent adjustments.

Reference is made in these adjustment outlines to the FRONT, REAR, LEFT and RIGHT of the mechanism in order to locate adjusting screws and various mechanical parts. Unless otherwise specified, these are defined as viewed from the front of the cabinet. Reference is also made to right side and left side playing of a record. Right side of a record is defined as viewed from the front of the complete instrument and is played with counter-clockwise rotation of the mechanism flywheel. Left side of a record is defined as viewed from the front of the instrument and is played with clockwise rotation of the flywheel. Counter-clockwise and clockwise rotation of the flywheel are defined as viewed from the left side of the mechanism. These references are used whether the mechanism is in or out of the cabinet.





The operation cycle of the mechanism follows a definite sequence in playing a record. This sequence includes the following:

SCAN - - in which the carriage assembly travels from side to side on the mechanism base.

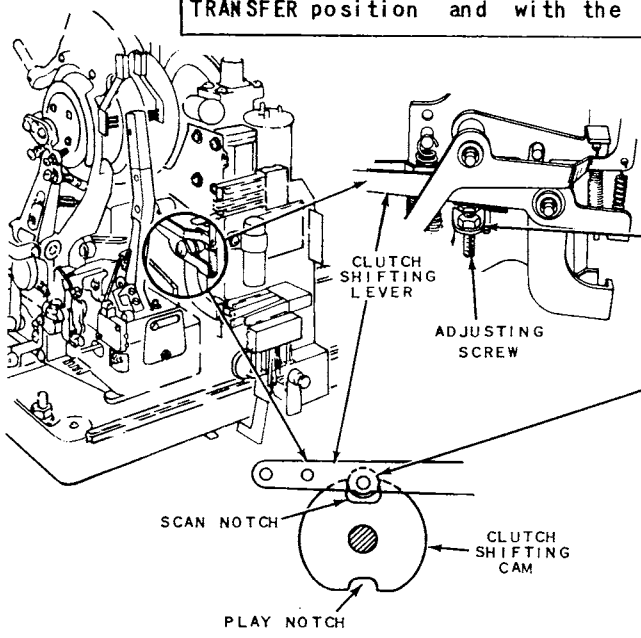
TRANSFER - - in which the record is transferred from the magazine to the playing position or from the playing position to the magazine.

PLAYING - - in which the record is clamped to the turntable and is played.

These terms SCAN - TRANSFER - PLAYING are also used to describe the position of the clutch, cams and levers of the carriage assembly whether or not the motor is in operation.

"CLUTCH I" - - CLUTCH LIFTING ADJUSTMENT

This adjustment controls the amount of vertical clutch travel and results in full engagement of the Clutch with the Worm Pin in TRANSFER position and with the Sprocket Pin in SCAN position

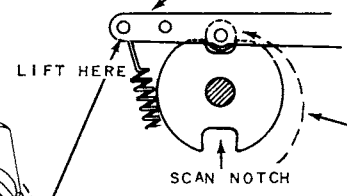


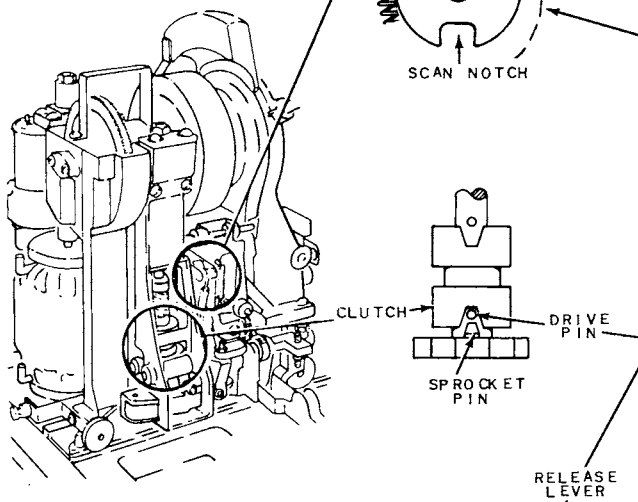
(A) Scan Carriage to front of K9-K10 record space. Leave it in SCAN position.

(B) Loosen lock nut and turn Adjusting Screw down to limit.

(C) Check Clutch Shifting Lever Roller position. The Roller should be in the SCAN Notch.

If the Roller is not in the SCAN Notch, turn the motor shaft until the Roller enters fully into the notch. If the Roller enters the PLAY Notch, it may be necessary to manually lift the Clutch Shifting Lever and - -
turn the motor shaft until the Roller is on the high part of its cam. When the Roller is on the high part of the cam, release the Lever but continue turning the motor shaft until the Roller fully enters the SCAN Notch.





(D) Check Trip Mechanism position. The Trip Mechanism should be latched with Release Lever down to limit.

(E) Check Clutch position. Clutch should be all the way down against Drive Pin and engaged with Sprocket Pin.

(F) While manually holding Clutch Shifting Lever down - -

turn Adjusting Screw UP until screw head just touches Clutch Shifting Lever.

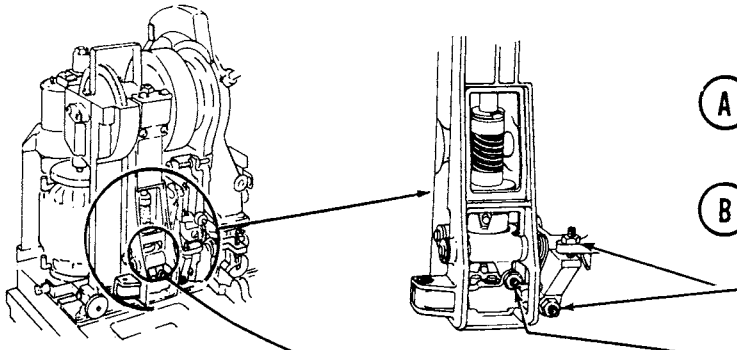
(G) Tighten Lock Nut.

"CLUTCH 2" - - SPROCKET CLEARANCE AND DETENTING ADJUSTMENT

This adjustment establishes correct clearance between the Detent Roller and the Sprocket Teeth when the mechanism is Scanning. It results in clearance between roller and Sprocket Teeth which allows 1/16" movement at end of the Detent Arm.

NOTE 1: - "Clutch 1" adjustment should be correct before making this adjustment.

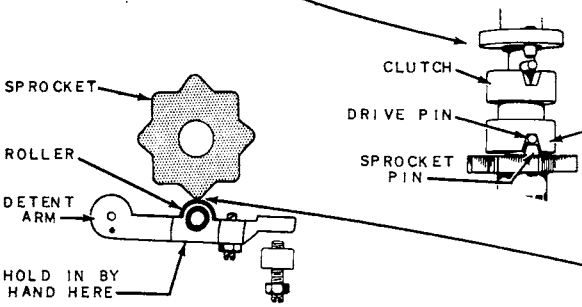
NOTE 2: - If "Clutch 2" adjustment is changed in any way, "Clutch 3 and 4" should be re-adjusted. "Clutch 2, 3 and 4" are related to an extent that a change of "Clutch 2" can cause damaging strains at adjusting screws for "Clutch 3 and 4".



(A) Scan Carriage to right end beyond K10 position.

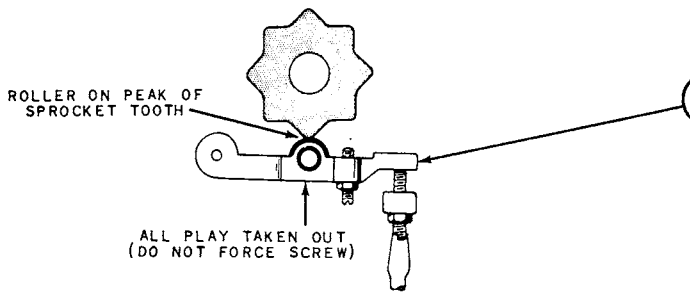
(B) Loosen lock nuts and turn these adjusting screws out to the limit;

"Clutch 2"
"Clutch 3"
"Clutch 4"

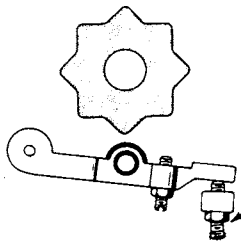


(C) Mechanism should still be in SCAN position, beyond K10, with Clutch all the way down (against lower Drive Pin) and engaged with Sprocket Pin.

(D) Hold Detent Arm in lightly by hand and turn motor shaft until Detent Arm Roller reaches peak of a Sprocket Tooth.



(E) With Detent Roller lined up with peak of Sprocket Tooth, turn adjusting screw in carefully, a little at a time, until there is no "in and out" play between Detent Arm Roller and peak of Sprocket Tooth. (This is the starting point for correct adjustment.)

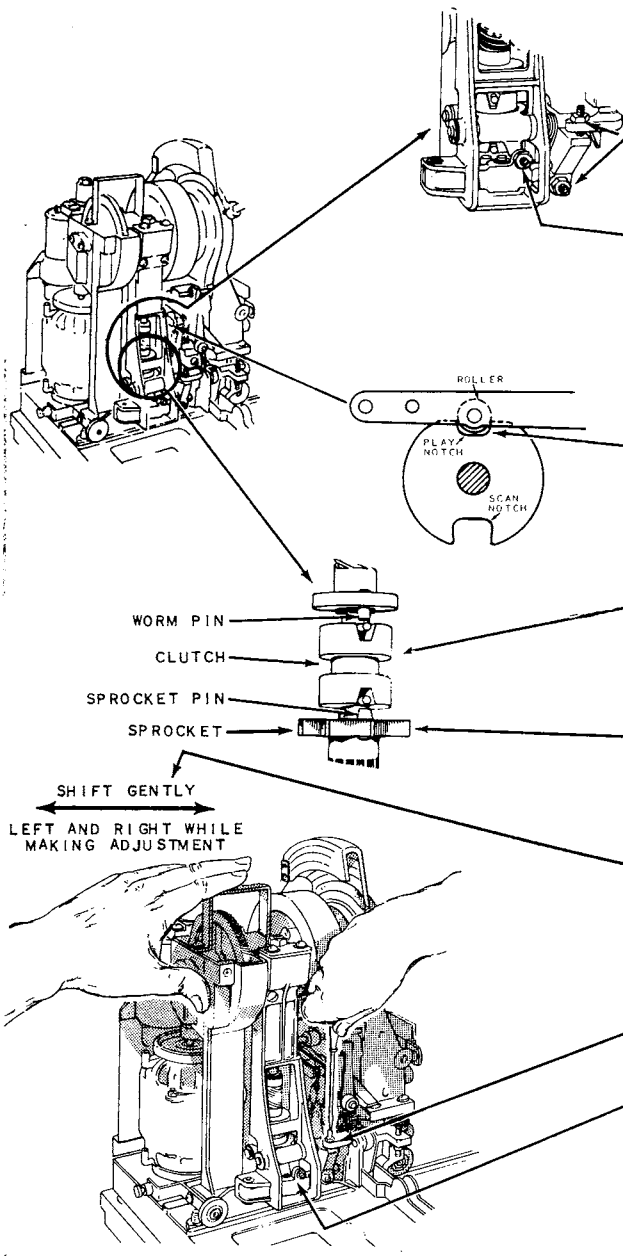


(F) Now, back out, the screw 2 turns and tighten the lock nut. This establishes correct clearance.

(G) After this adjustment has been made, adjust "Clutch 3 and 4" as shown on following pages.

"CLUTCH 3" - - DETENT LOCKING ADJUSTMENT

This adjustment insures proper locking of the carriage while a record is playing. The adjustment takes out all rotational motion of the sprocket resulting in a minimum of lateral play in the carriage.



NOTE: - "Clutch 2" adjustment should be correct before making this adjustment.

(A) Loosen Lock Nuts and turn these adjusting screws out to the limit:

"Clutch 3"

"Clutch 4"

(B) Place mechanism in K10 PLAY position. Be sure mechanism is fully in PLAY position.

Clutch Shifting Lever Roller should be down in PLAY Notch, - - - and - - -

Clutch should be somewhere below the Worm Pin and above the Sprocket Pin.

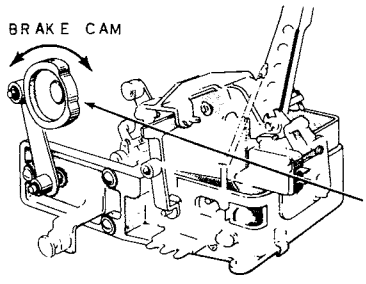
Note side play in Carriage and rotational motion in Sprocket when Carriage is shifted to left and right by hand. This is due to "Clutch 3" screw being out too far.

(C) While gently shifting Carriage to Left and Right by hand, - - -

turn "Clutch 3" adjusting screw carefully downward - - -

until all rotational motion is just taken out of Sprocket. Tighten "Clutch 3" Lock Nut.

(D) After this adjustment has been made, adjust "Clutch 4" as shown on the following page.



CAUTION: - Note that when adjustment is completed there is no more rotational motion in Sprocket but Carriage still has a slight amount of side play. This is a normal condition due to required gear clearances.

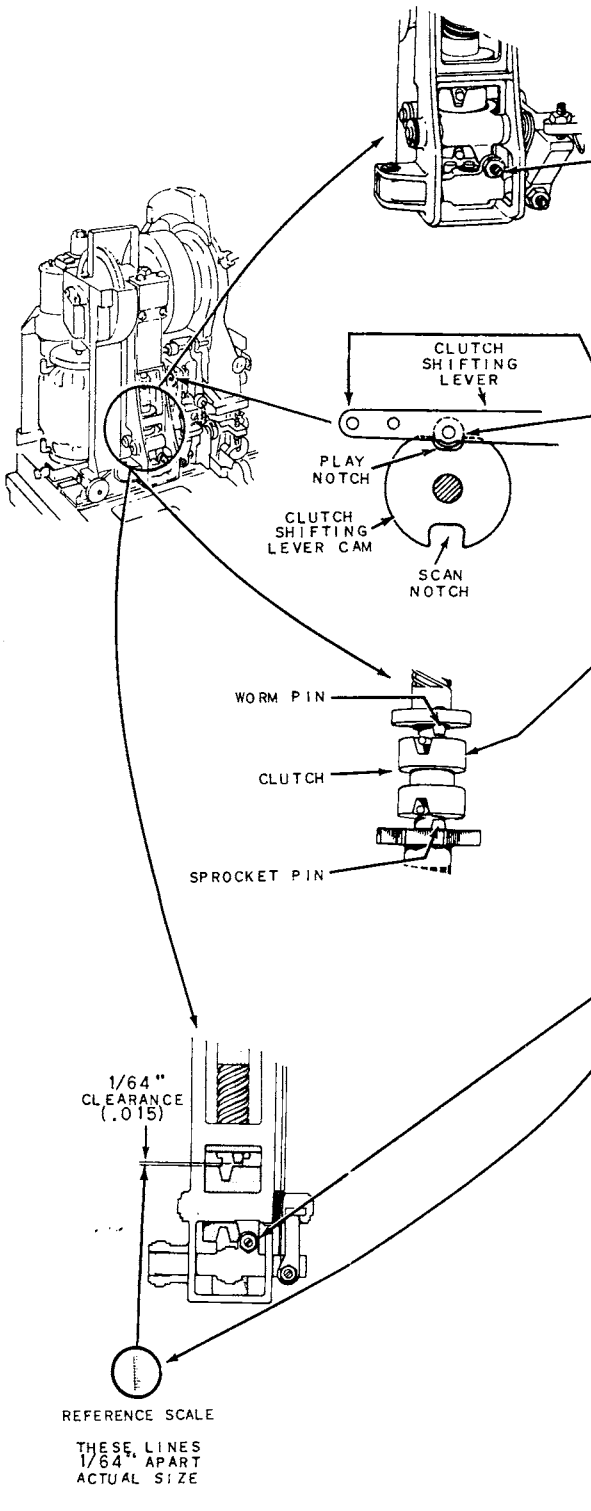
Do not force adjusting screw.

Turning the screw down too far will set up severe strains in the levers and will cause the Cam Assembly to bind when entering PLAY position. When adjustment is completed, check for freedom of action of Cam Assembly by turning Brake Cam by hand in both directions. Cam should have a slight amount of rotational play.

"CLUTCH 4" - - CLUTCH PLAY POSITION ADJUSTMENT

This adjustment establishes the playing position of the Clutch. This results in 1/64" clearance between the Clutch and the Worm Pin in PLAY position.

NOTE: - Before making this adjustment "Clutch 2 and 3" should be correct.



(A) "Clutch 4" adjusting screw should be turned out to the limit.

(B) Place mechanism in K10 PLAY position. Be sure mechanism is fully in PLAY position.

Clutch Shifting Lever Roller should be down in PLAY notch, - - - and - - -

Clutch should be below the Worm Pin and above the Sprocket Pin.

(C) Press downward on end of Clutch Shifting Lever. (This insures that the Clutch has moved to its farthest downward travel before making the adjustment.)

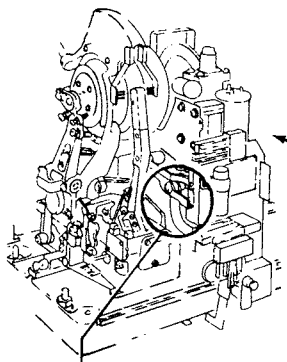
(D) Turn adjusting screw inward until there is 1/64" (.015) clearance between the bottom of the Worm Pin and the top of the Clutch.

(E) Tighten Lock Nut.

NOTE: - Clutch should drop freely, (to 1/64" clearance) every time mechanism enters PLAY position. If Clutch does not drop freely into full PLAY position it may hit Worm Pin as it rotates. This can be caused by "Clutch 3" being too tight or by binds in the Clutch and the Clutch Shifting Lever.

RESET LEVER STOP ADJUSTMENT*

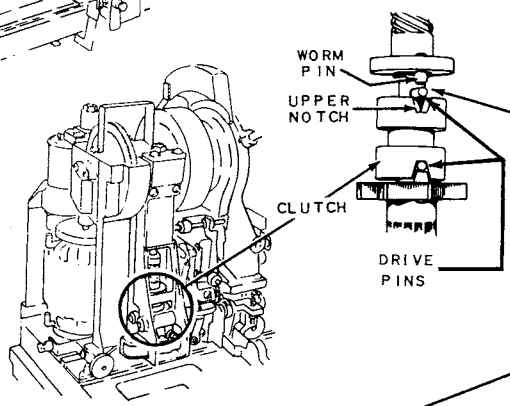
This adjustment positions the Rubber Stop so it minimizes and absorbs mechanical shock at the Reset Lever when the mechanism is tripped. It results in 1/32" clearance between the Limit Pin and the Reset Lever in the tripped position of the mechanism.



NOTE 1: - This adjustment not used if adjustable Trip Solenoid is used. See "Trip Solenoid 1" adjustment.

NOTE 2: - "Clutch 1" adjustment should be correct before making this adjustment.

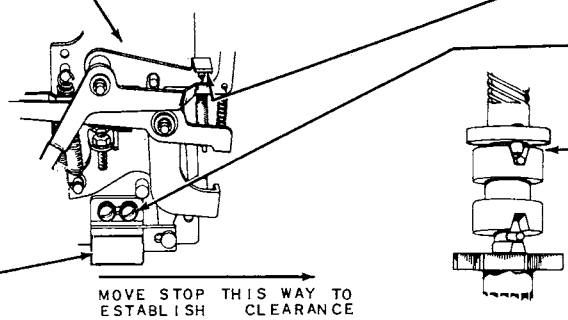
(A) Place mechanism in SCAN position in front of K9-K10 record space.



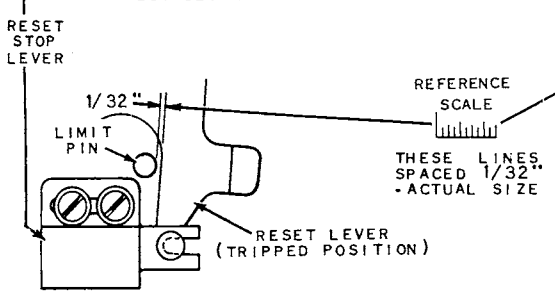
(B) Turn motor shaft manually until upper notch in Clutch is lined up with Worm Pin.

(C) Trip the mechanism by manually lifting the Release Lever.

(D) Loosen screws holding Reset Lever Stop.

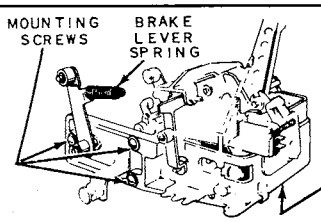


(E) Check Clutch position. Clutch should now be up to limit and engaged with Worm Pin.



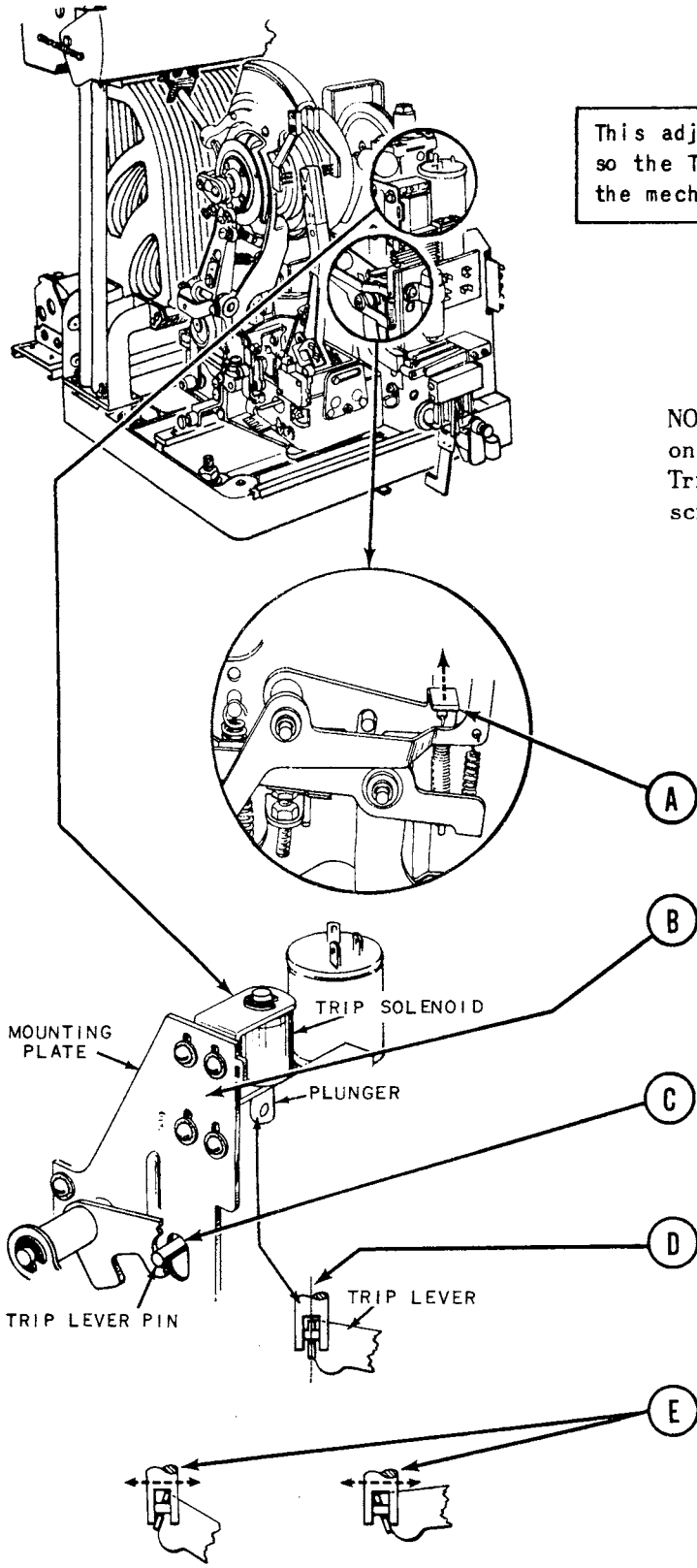
(F) With Clutch engaged with Worm Pin, as shown above, move Reset Lever Stop toward front until Reset Lever clears Limit Pin by 1/32 inch. Tighten screws.

(G) Check Clutch position. Clutch should still be up to limit and engaged with Worm Pin. If it is not against the Drive Pin check "Clutch 1" adjustment.



*It is necessary to remove Pickup Assembly to change above adjustment. This can be done by removing Brake Lever Spring and three mounting screws. When replacing Pickup Assembly on Carriage Casting pull front end of Pickup Base Casting UP before tightening mounting screws, taking out all play in upward direction. This insures that Pickup Casting does not rest against Reset Lever Stop. Check Pickup adjustments after mounting on carriage.

"TRIP SOLENOID I" - - TRIP SOLENOID POSITION



This adjustment positions the Trip Solenoid so the Trip Lever is raised enough to cause the mechanism to "trip".

NOTE: This adjustment applies only if mechanism has adjustable Trip Solenoid with slotted mounting screw holes.

(A) Trip the mechanism by manually lifting the Release Lever.

(B) Loosen four screws holding Trip Solenoid Brackets and - - -

adjust the vertical position of the Solenoid so the Trip Lever Pin clears the upper edge of the Mounting Plate Hole not less than 1/64" when the Solenoid Plunger is in the fully raised position.

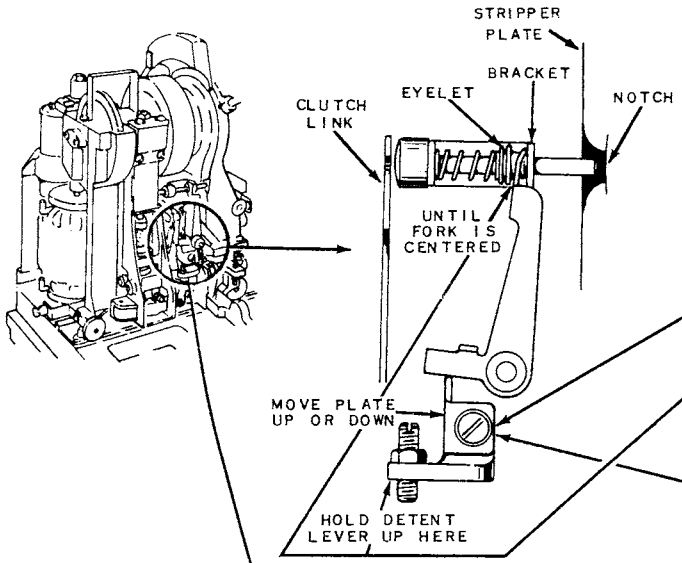
(C) Adjust the horizontal position of the Solenoid so the forked end of the Trip Lever, when vertical, is centered in the plunger slot.

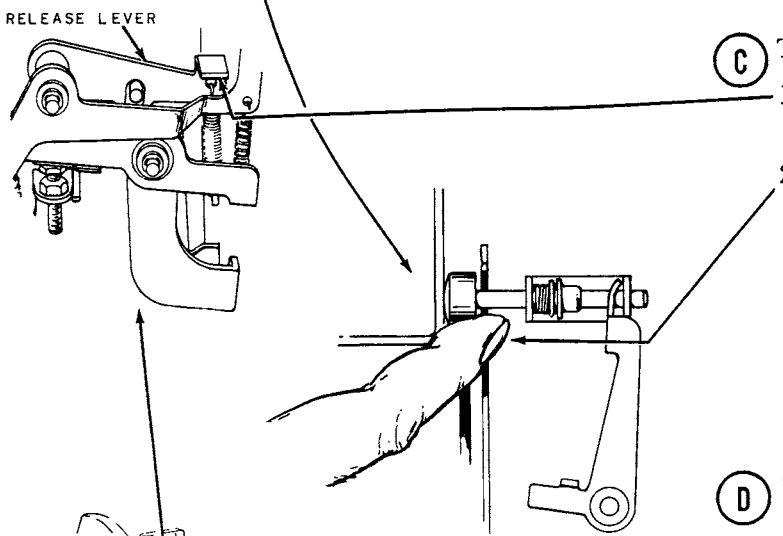
(D) To avoid binds the Plunger must have horizontal play when the Trip Lever is in either extreme up or down position.

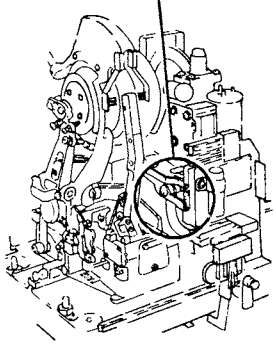
(E) The upper and lower brackets holding the Solenoid should be square with the coil.

"SAFETY LEVER I" - - SAFETY LEVER POSITION

This adjustment establishes the correct position of the Safety Lever and results in proper travel of the Safety Plunger when the mechanism is entering PLAY or SCAN position.







Ⓐ Scan Carriage to right end beyond K10 and turn off power.

Ⓑ To adjust Safety Lever, - - -

1. Mechanism should still be in SCAN position.
2. Loosen screw.
3. While holding Detent Arm Lever up by hand, move Adjustment Plate up or down until top forked end of Safety Lever is approximately centered between eyelet and bracket.
4. Tighten screw.

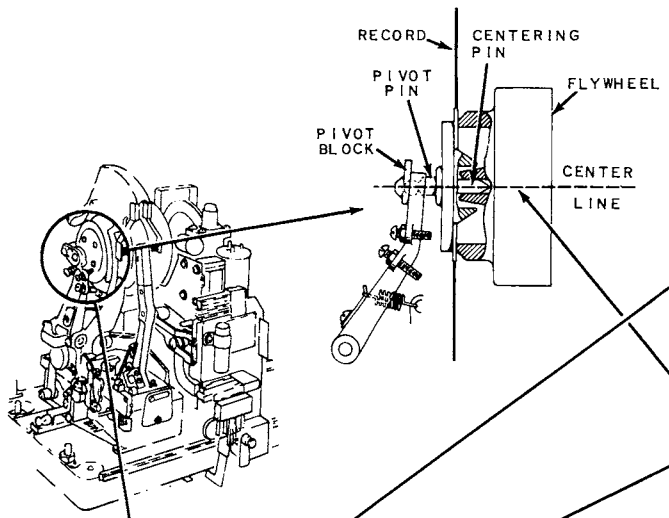
Ⓒ To check Safety Assembly for binds,

1. Trip the mechanism by manually lifting the Release Lever.
2. Pull Plunger all the way over to the left (as shown) and release slowly to right. Plunger should return freely without binds.

Ⓓ To test for correct safety operation, - - hold the edge of a thin record across the Stripper Plate Notch and run mechanism slowly through SCAN. Hook on Clutch link should catch on large end of Plunger and record should be returned to PLAY position.

"CLAMP ARM 1" - - PIVOT PIN ALIGNMENT

This adjustment establishes proper alignment of the Pivot Pin with the Centering Pin and the hole in the Flywheel Shaft.



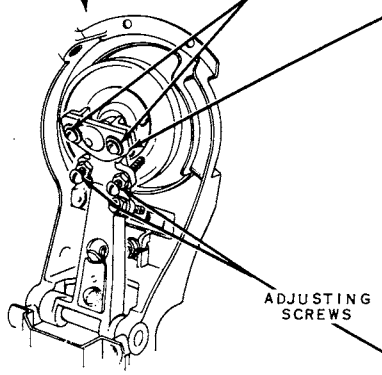
(A) Place mechanism in PLAY position with a record clamped on the Flywheel.

(B) Loosen Pivot Block Screws.

(C) Move Pivot Block, up or down, until center line of Pivot Pin is in line with or 1/32" above the center line of the Flywheel Shaft, and tighten screws.

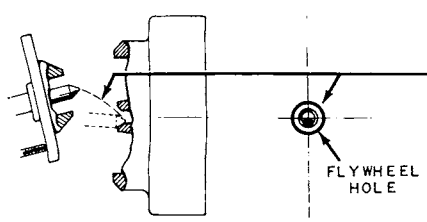
"CLAMP ARM 2" - - CENTERING PIN POSITION

This adjustment establishes the Centering Pin position allowing it to enter freely into the hole of the Flywheel Shaft when a record is being clamped.



NOTE: - "Clamp Arm 1" adjustment should be correct before making this adjustment.

(A) Loosen lock nuts and adjust both screws as required so - - -

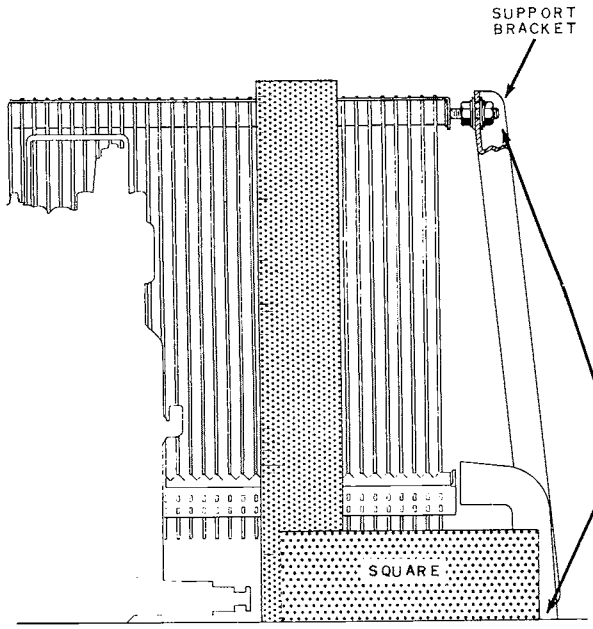


(B) Tip of Centering Pin enters Flywheel hole as shown.

(C) Tighten Lock Nuts.

"MAGAZINE I" - - VERTICAL ALIGNMENT

This adjustment moves the upper end of all the Magazine Separators so the Separators are at right angles with respect to the base. This results in the Separators being parallel to a flat record when the record is in Play position.



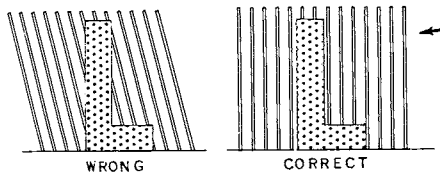
(A) To check Magazine for squareness -

1. Lay the edge of a 12" square along the back rail of the base and line up the vertical edge with one of the Separators as shown.

2. The Magazine Separators should line up with the edge of the square as shown.

(B) To Adjust - - -

1. Loosen Adjusting Nuts at <u>both sides</u> of the magazine and move them to their limit away from their Support Brackets.



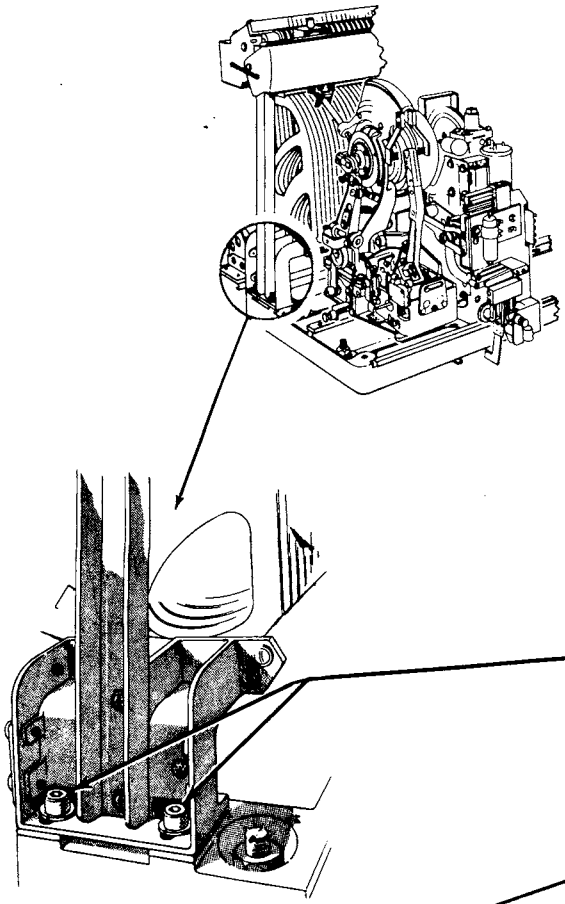
2. Adjust proper nut, on either side, which will align the Separators with the edge of the square.

3. Bring other nuts up to their Support Brackets and tighten.

NOTE: - Check the spacing of the Magazine Separators. All the Separators should be straight and equally spaced.

"MAGAZINE 2" - - HORIZONTAL POSITION

This adjustment establishes the horizontal Magazine position so that when a record is in Play position it is approximately centered with its magazine space.

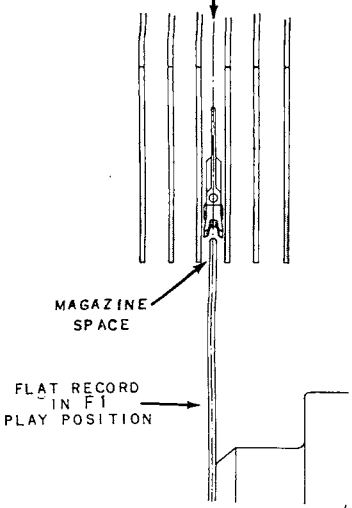


NOTE: - Before making this adjustment the Magazine should be square, as noted in "Magazine 1" adjustment.

(A) Place a FLAT record in F1 PLAY position. (Be sure the record is FLAT - not warped, not dished.)

(B) Loosen the cap screws holding both ends of the Magazine to the Base.

(C) Shift the entire Magazine to Left or Right until the record is in the center of the Magazine Space.



(D) Tighten cap screws. (Be sure the screws are tight.)

NOTE: - If the Magazine position is changed be sure to check and re-adjust.

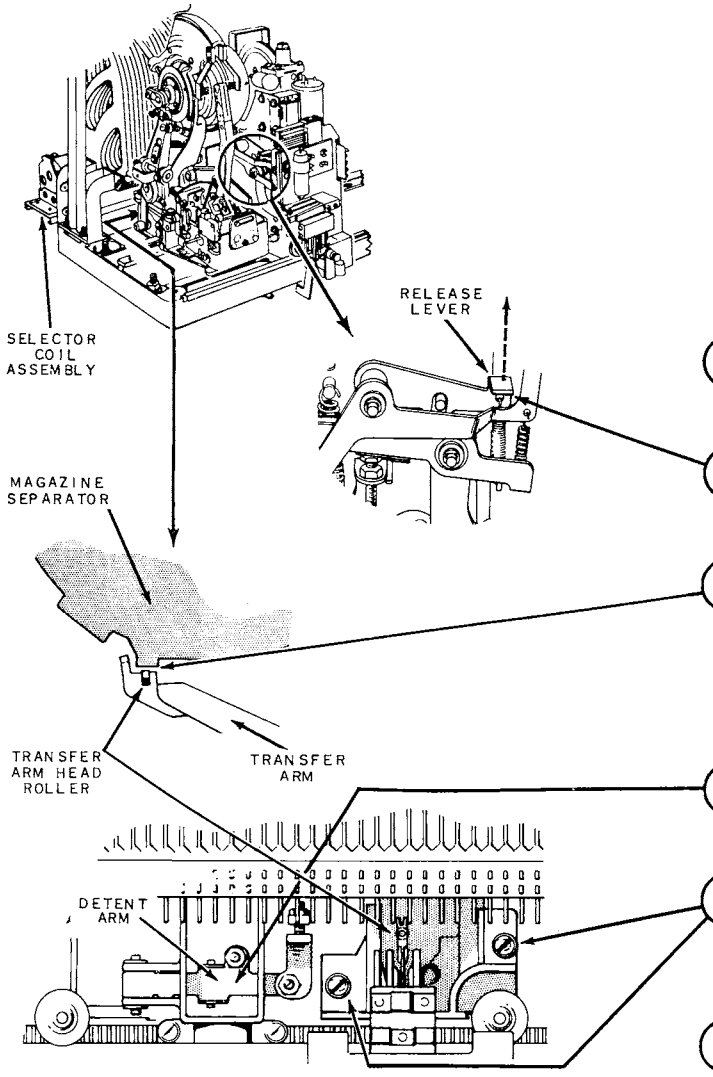
"Transfer Arm 1"

"Contact Block 1"

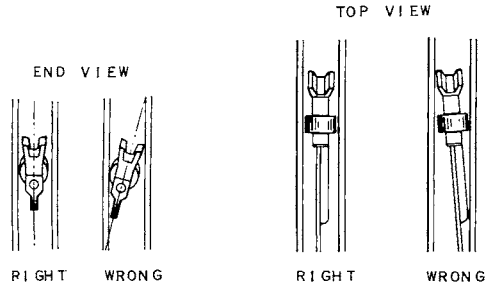
"Selection Playing Indicator 2"

"TRANSFER ARM 1" - - ALIGNMENT TO MAGAZINE

This adjustment establishes the lateral position of the Transfer Arm so the Transfer Arm Head will be centered in the magazine space when a record is transferred.



REAR VIEW WITH SELECTOR COIL ASSEMBLY REMOVED



NOTE: - The Magazine position (Magazine 2 Adjustment) should be correct before making this adjustment.

The Selector Coil Assembly should be removed for convenience in making this adjustment. This can be done by removing its four mounting screws and sliding Selector Coil Assembly off the Contact Block.

(A) Scan the mechanism to F1 position and turn off power.

(B) Trip the mechanism by manually lifting the Release Lever.

(C) Turn motor shaft until Roller in Transfer Arm Head is approximately 1/32" below the projections on the lower edges of the Magazine Separators.

(D) Push in on Detent Arm to take out Carriage Side Play.

(E) Loosen two screws holding Contact Arm Casting to Carriage Casting and - - -

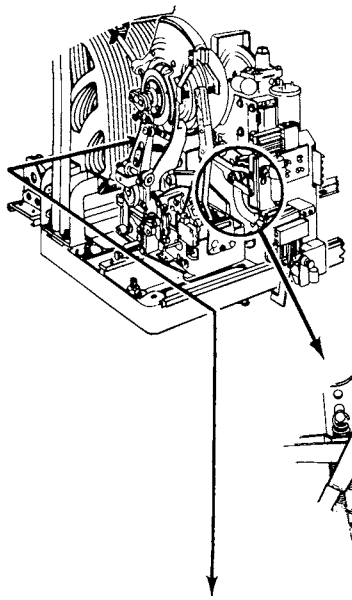
(F) Shift Contact Arm Casting to left or right until Transfer Arm Head is centered in the space. Tighten screws.

(G) When the Transfer Arm enters the space, the Transfer Arm Head should be parallel to the Magazine Separators as shown. Straighten Arm if necessary to correct Transfer Arm Head alignment.

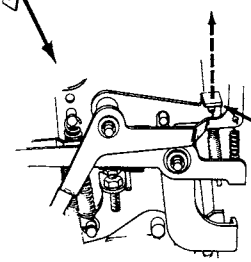
NOTE: - After making this adjustment be sure to check and adjust - "Contact Block 1".

"TRANSFER ARM 2" - - PLAY POSITION CLEARANCE

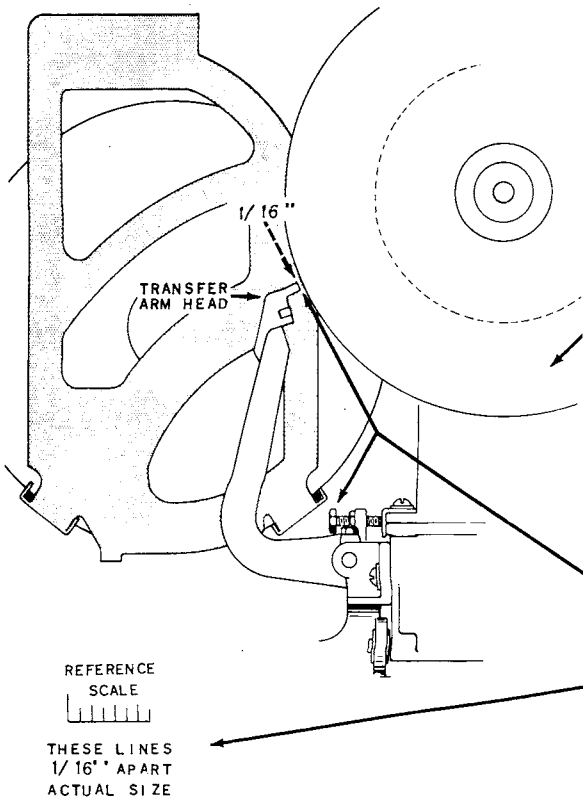
This adjustment establishes the upper limit of travel of the Transfer Arm so that records will be brought up high enough to be properly clamped to the Flywheel by the Clamp Arm.



(A) Scan the carriage to the Left, stopping it one position to the LEFT of A1 so the Transfer Arm will come up outside the magazine.



(B) Trip the mechanism by manually lifting the Release Lever.



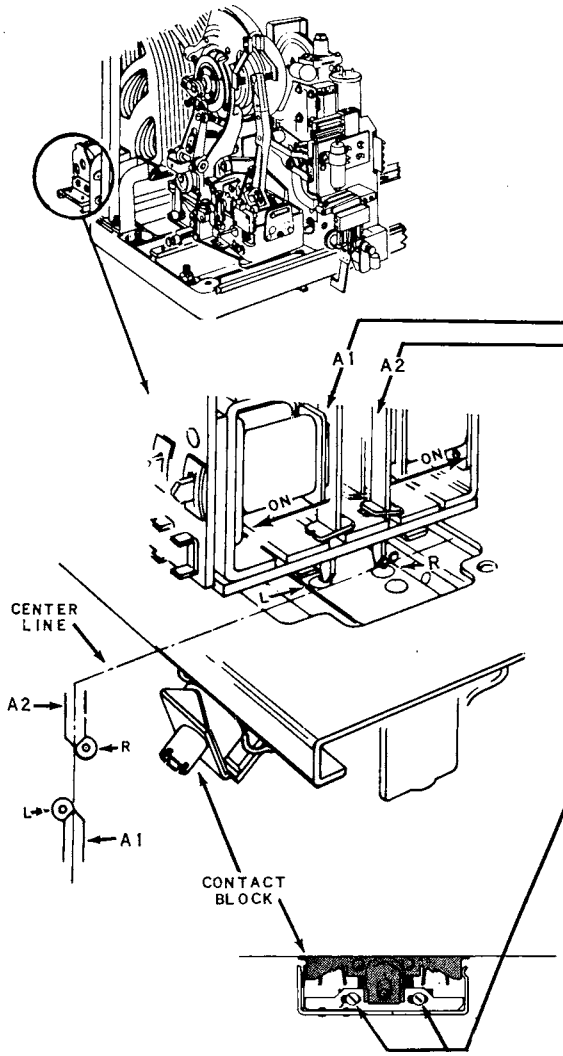
(C) Place a normal size *record in position on the Transfer Arm Head. Turn motor shaft until record is brought up and clamped in PLAY position. (Transfer Arm and record should come up just outside of the Magazine one position to the left of A1.)

(D) Adjust screw for 1/16" clearance between edge of record and tips of the Transfer Arm Head.

*DIAMETER OF A NORMAL SIZE 45 R.P.M. RECORD IS 6-7/8" ± 1/32"

"CONTACT BLOCK 1" - - CONTACT BLOCK ALIGNMENT

This adjustment positions the Contact Block and determines proper timing for tripping the mechanism at the selected record and proper alignment at the Cancel Solenoid for cancellation at the Selected Lever.



NOTE: - Check "Clutch 3" for minimum Carriage side play, and check "Magazine 2" and "Transfer Arm 1" adjustment before making this adjustment.

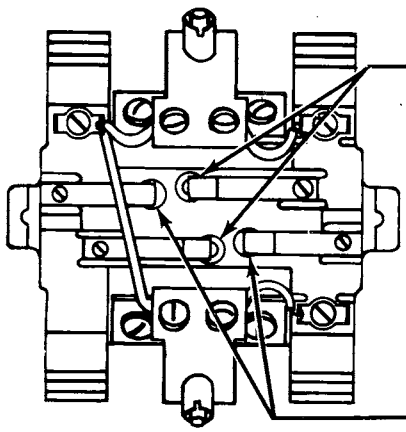
(A) Place mechanism in A1 PLAY position and turn off power.

(B) Move Selection Levers A1 and A2 out to their ON position.

(C) Loosen Contact Block Adjusting Screws.

(D) Position Contact Block so A1 and A2 levers are approximately centered between L and R contacts, as shown, and tighten screws.

(E) Place mechanism in K9 PLAY position and check for equivalent L and R contact alignment with K9-K10 Selection Levers out to their ON position. Exact centering at all points is not necessary -- if the Selection Levers are not equally centered with the L and R contacts at the K9-K10 position, shift the Contact Block, as required, so variation in centering is equally divided between the A1-A2 and the K9-K10 positions.



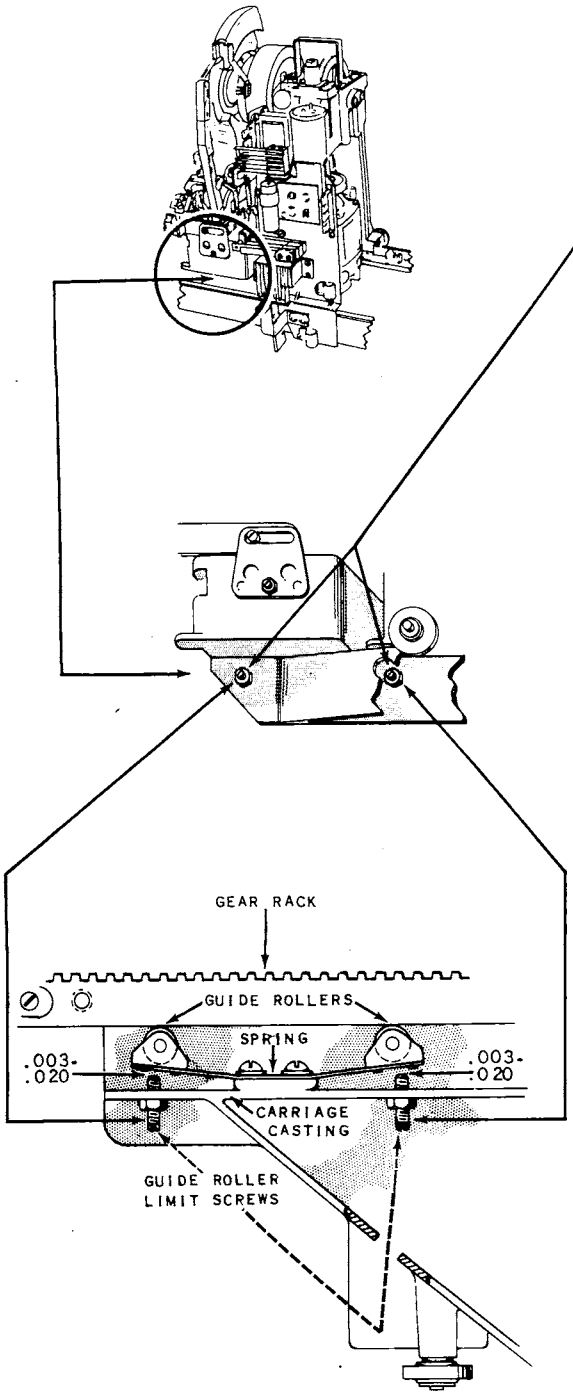
Adjust spring pressure so a 1/2 to 3/4 oz. force is required to move selector contacts.

Adjust spring pressure so a 2 to 2-1/2 oz. force is required to move dressing contacts.

Dressing contacts and selector contacts should move of their own weight (with no spring pressure).

"GUIDE ROLLERS I" - - CARRIAGE GUIDE ROLLER ADJUSTMENTS

This adjustment limits the front to back play of the Carriage.



(A) Front and back play of Carriage on rack should be limited to .003 to .020 by position of Guide Roller Limit Screws.

(B) To adjust Guide Roller Limit Screws - - -

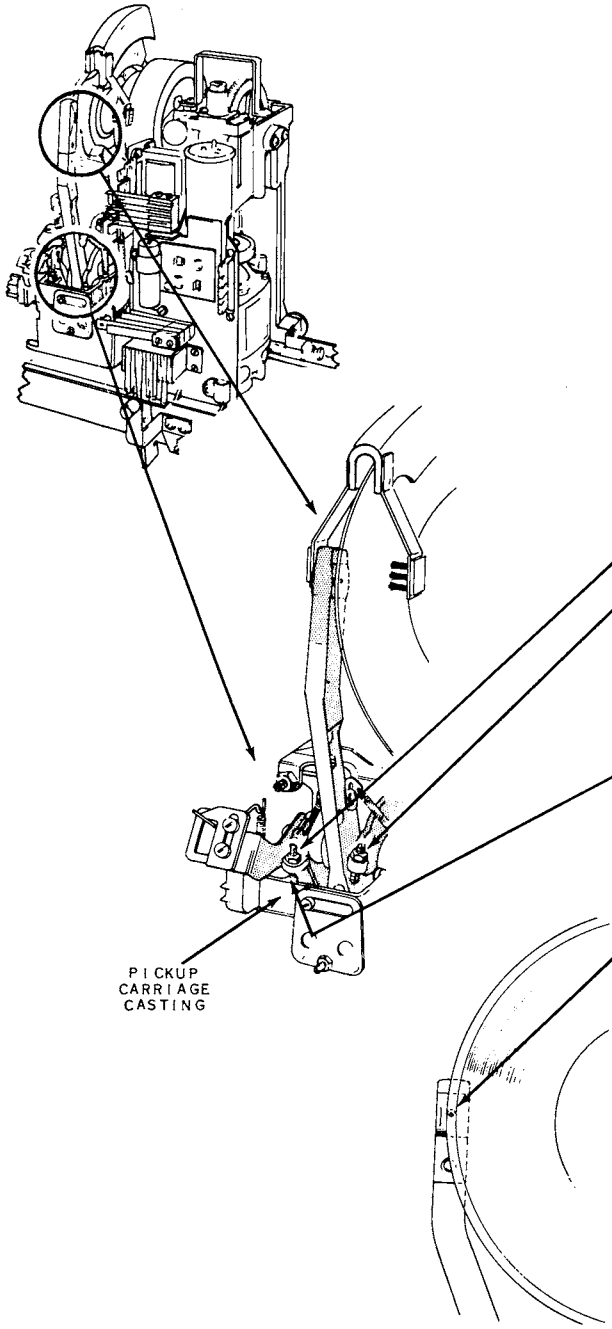
1. Loosen Lock Nuts.
2. Carefully turn screws in, all the way, until all front and back play of Carriage is taken out.
   (DO NOT FORCE SCREWS)
3. When all front and back play is taken out, back out each screw 1/2 turn. (This will result in approximately .015 clearance.)
4. Tighten Lock Nuts.

(C) Check for play along the entire Gear Rack. Back out each screw an additional 1/4 turn if necessary to avoid binding.

(D) To check Guide Roller Spring pressure, - push left side of Carriage toward the rear and release slowly. Repeat with right side of Carriage. Spring pressure on each side should be great enough to fully reset the Carriage to its normal forward positions.

"PICKUP 1" - - NEEDLE LANDING ADJUSTMENT

This adjustment establishes the point of landing of the needle on the record at the beginning of Play. It should be made so the needle lands half way between the edge of the record and the first playing groove.



(A) Select the Left side of a normal* record (preferably a transparent type) and place the record and the mechanism in Left Side PLAY position.

(B) Loosen Lock Nuts on - - - "Pickup 1" and - - - "Pickup 2". Turn Adjusting Screw out to limit. ("Pickup 2" Adjusting Screw is loosened to avoid possibility of binds in the levers when the mechanism is later returned to SCAN.)

(C) Hold Adjusting Screw down against casting and adjust so - - -

(D) - - needle is halfway between outer edge of record and the playing grooves. (If transparent type record is used, point where needle touches can be seen through the record.)

(E) Tighten "Pickup 1" Lock Nut.

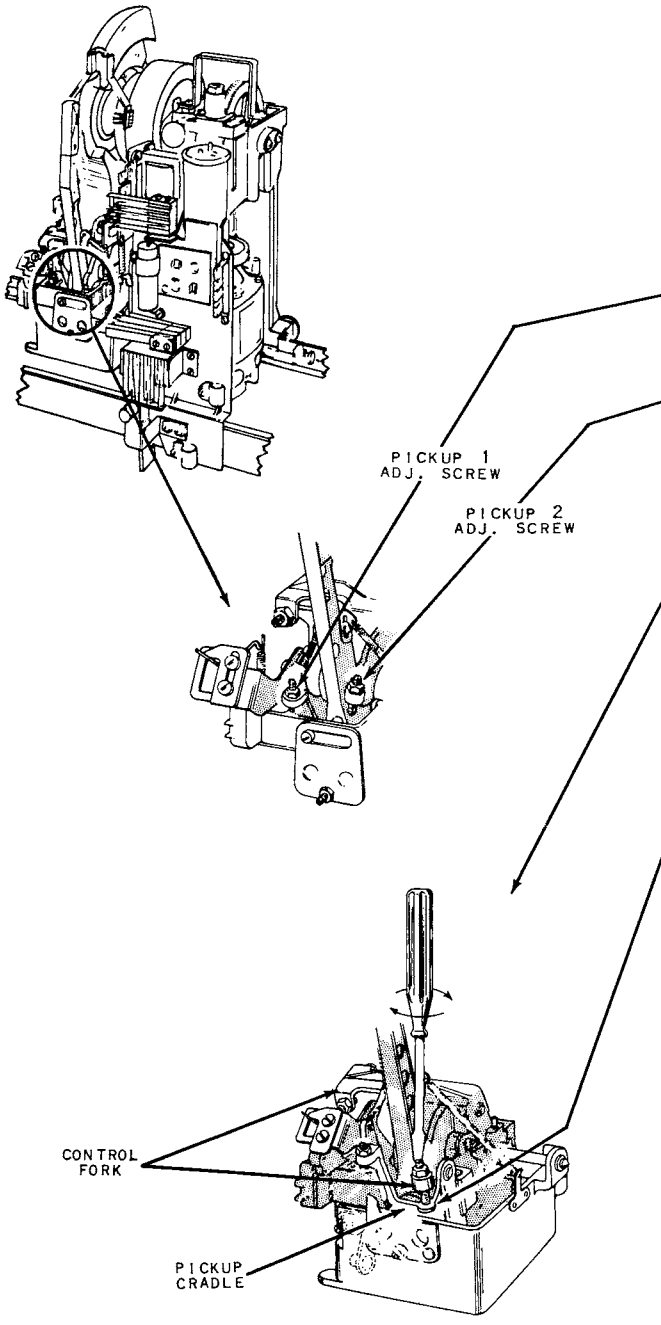
(F) Select the Right side of the same record and check for proper needle landing at the beginning of Right Side PLAY.

(G) After this adjustment had been made, adjust "Pickup 2" as shown on the following page.

*Normal diameter for 45 R.P.M. records is 6-7/8 ± 1/32.

PICKUP 2 - - PICKUP RETURN ADJUSTMENT

This adjustment results in proper return of the Pickup Arm to SCAN position and allows enough play between the Cradle and the Adjusting Screw to avoid binds.



NOTE: - "Pickup 1" adjustment should be correct before making this adjustment.

(A) Place mechanism in SCAN position with Pickup Arm on Left Side. "Pickup 1" Adjusting Screw should be against the casting.

(B) Loosen Lock Nut and turn "Pickup 2" Adjusting Screw out to limit.

(C) Insert screw driver in screw slot. Push straight down on screw with screw driver, then release. Note clearance between screw and cradle and note the up and down play in the Control Fork.

(D) While gently pushing down and releasing the screw with screw driver, turn screw down carefully, a little at a time, until all the up and down play is just taken out.

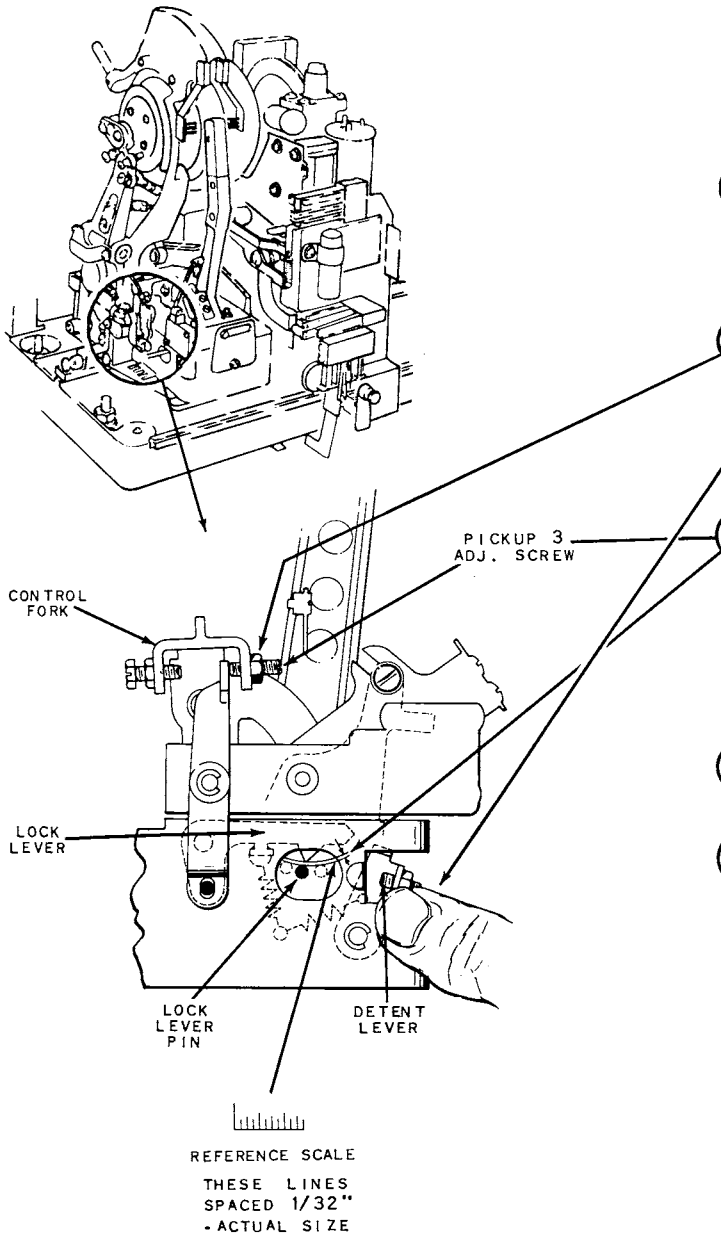
(E) Back out screw 1/4 turn from the above position and tighten Lock Nut. (This allows a small amount of clearance under the screw and a slight amount of up and down play in the Control Fork.)

(F) Place mechanism in Right side PLAY position then return it to SCAN with Pickup Arm on Right Side. Check for equivalent up and down play of Control Fork with Pickup Arm on Right side.

CAUTION: If "Pickup 2" Adjusting Screw is down too far (no up and down play in Control Fork) it may place a bind on the Levers and interfere with proper Pickup shifting action. A check for proper shifting of Pickup can be made by alternately selecting and playing several Right and Left sides of records. Each time Pickup shifts it should move smoothly all the way over to its Right or Left position.

"PICKUP 3" - - PICKUP RELEASE ADJUSTMENT

This adjustment establishes 1/32" clearance between the path of the Lock Lever Pin and the lower projection of the Lock Lever when the mechanism is in PLAY position.



(A) Place mechanism in Left Side PLAY position.

(B) Loosen Lock Nut - - and

while holding Detent Lever away from the Lock Lever, - - -

(C) adjust screw so that the lower projection of the Lock Lever and the Lock Lever Pin clear by 1/32" when the Pin is moved past the Lever.

(D) Tighten Lock Nut.

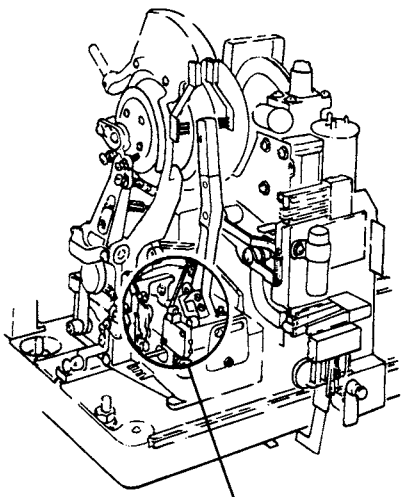
(E) Place mechanism in Right side PLAY position. While holding Detent Lever away from Lock Lever, move Pickup Arm in along record and again check for required 1/32" clearance.

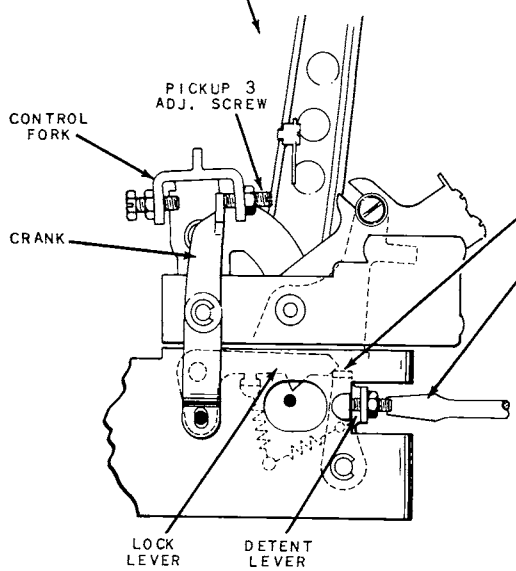
If clearance is not approximately the same in both Right and Left side PLAY positions, check Lock Lever Pin alignment. Straighten Pin, if necessary.

NOTE: - This adjustment should be followed by "Pickup 4" adjustment.

"PICKUP 4" - - DETENT LEVER ADJUSTMENT

This adjustment establishes the Detent Lever position so that it just touches the lower slope of the end of the Lock Lever when the mechanism is in PLAY position.





NOTE: - "Pickup 3" adjustment should be correct before making this adjustment.

(A) Place mechanism in Right side PLAY position.

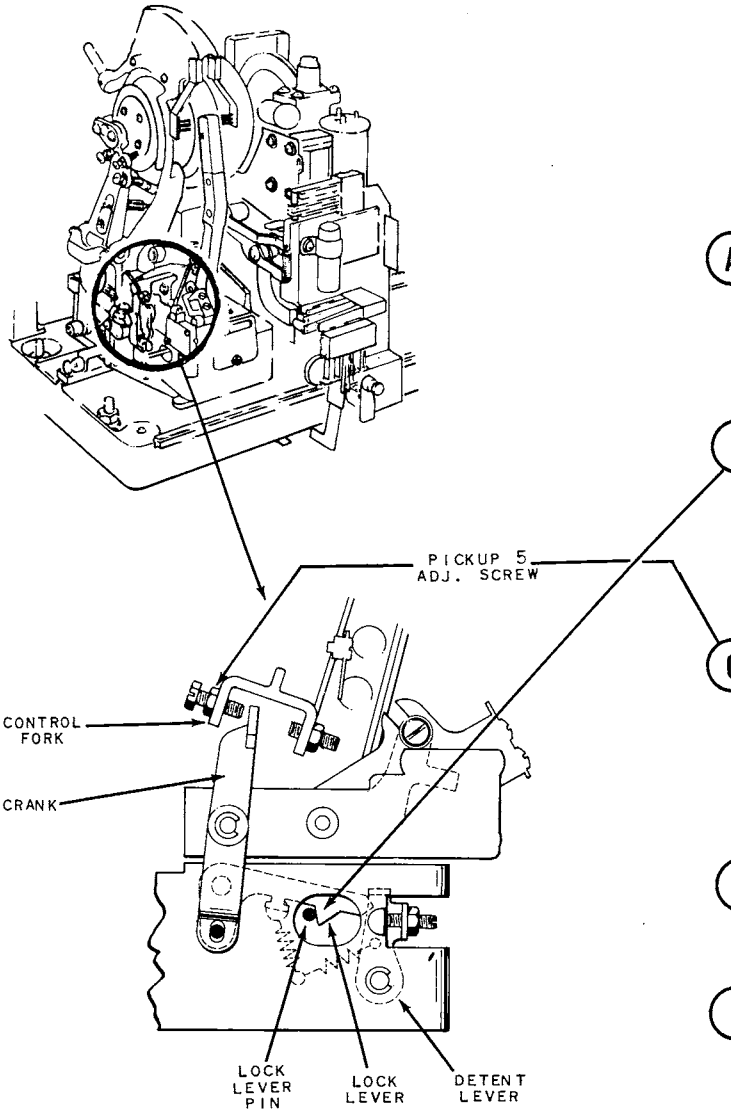
(B) Loosen Lock Nut and adjust the screw until Detent Lever just touches lower slope of Lock Lever, as shown. *The Detent Lever should meet the Lock Lever approximately half way along the lower slope. If the edge of the Detent Lever is above or below the lower slope of the Lock Lever, check "Pickup 3" adjustment.*

(C) Tighten Lock Nut.

(D) To check - - manually pull top of Control Fork away from Crank. The Detent Lever should hold the Lock Lever and the Crank from moving.

"PICKUP 5" - - PICKUP LOCKING ADJUSTMENT

This adjustment establishes 1/32" clearance between the tip of "Pickup 5" adjusting screw and the upper end of the Crank to insure correct locking of the Pickup Assembly in SCAN position.



REFERENCE SCALE

THESE LINES SPACED 1/32" .ACTUAL SIZE

NOTE: - "Pickup 4" adjustment should be correct before making this adjustment.

(A) Place mechanism in SCAN position with Pickup Arm and Cradle fully reset on Left side.

(B) Lock Lever should be engaged with Lock Lever Pin. Pull Detent Lever out of way, if necessary, to allow Lock Lever to drop against pin.

(C) Loosen Lock Nut and adjust screw so that clearance between the Crank and the tip of the screw is 1/32'' to 1/16''. Note reference scale.

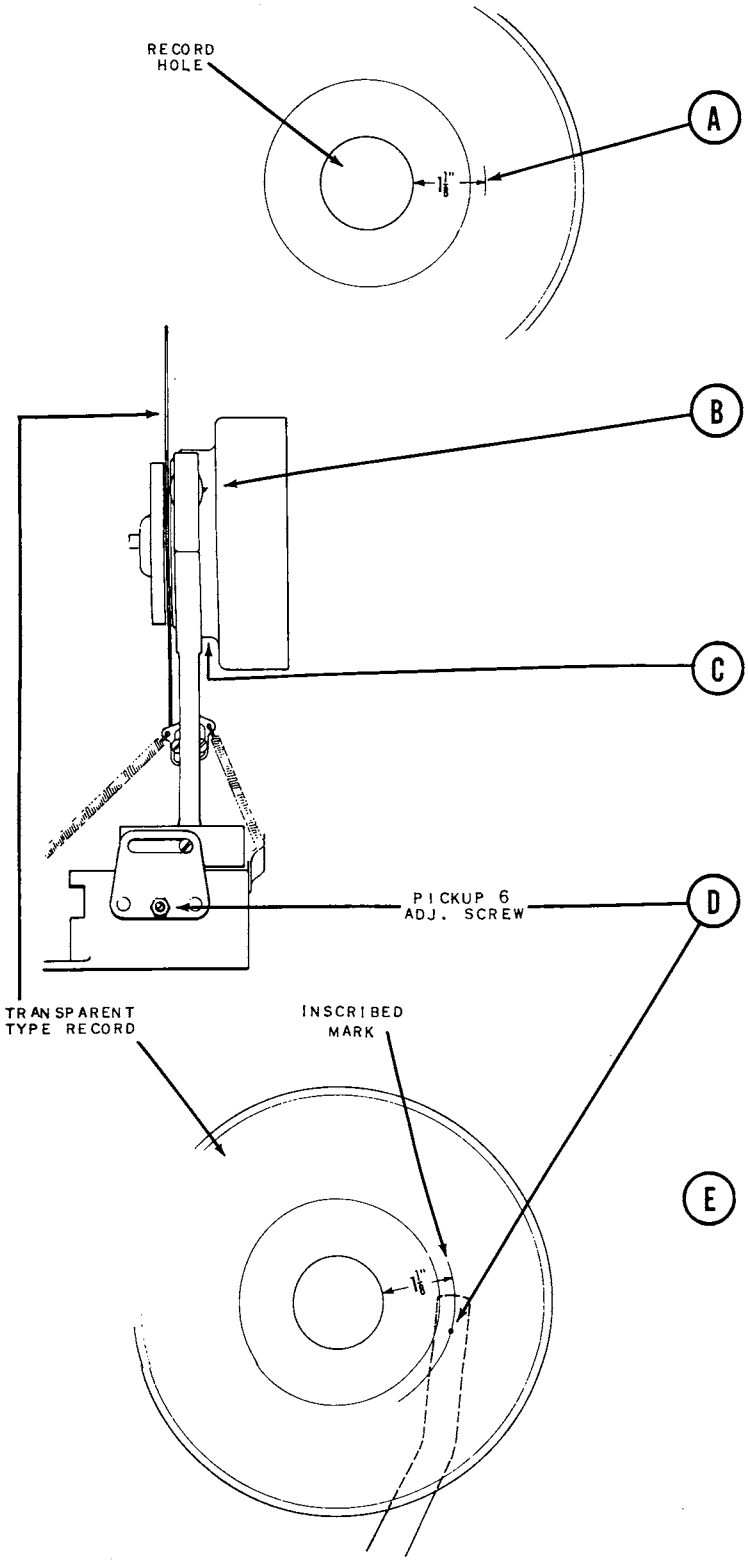
(D) Tighten Lock Nut.

(E) Check adjusting screw clearance by selecting Right side of a record. Screw tip should not touch Crank while shifting.

(F) Check resetting action - - by returning mechanism to Right side SCAN position. Lock Lever should be returned to Lock position against Pin and clearance between screw tip and Crank should be 1/32".

"PICKUP 6" - - PICKUP ARM STOP

This adjustment limits the inward travel of the Pickup Arm so the Pickup Cartridge cannot move in far enough to hit the Flywheel.



(A) Inscribe a mark on a record 1-1/8" away from the edge of hole. Use a transparent type record if available.

(B) Place mechanism in Right side PLAY position with inscribed record on Flywheel. Turn off power.

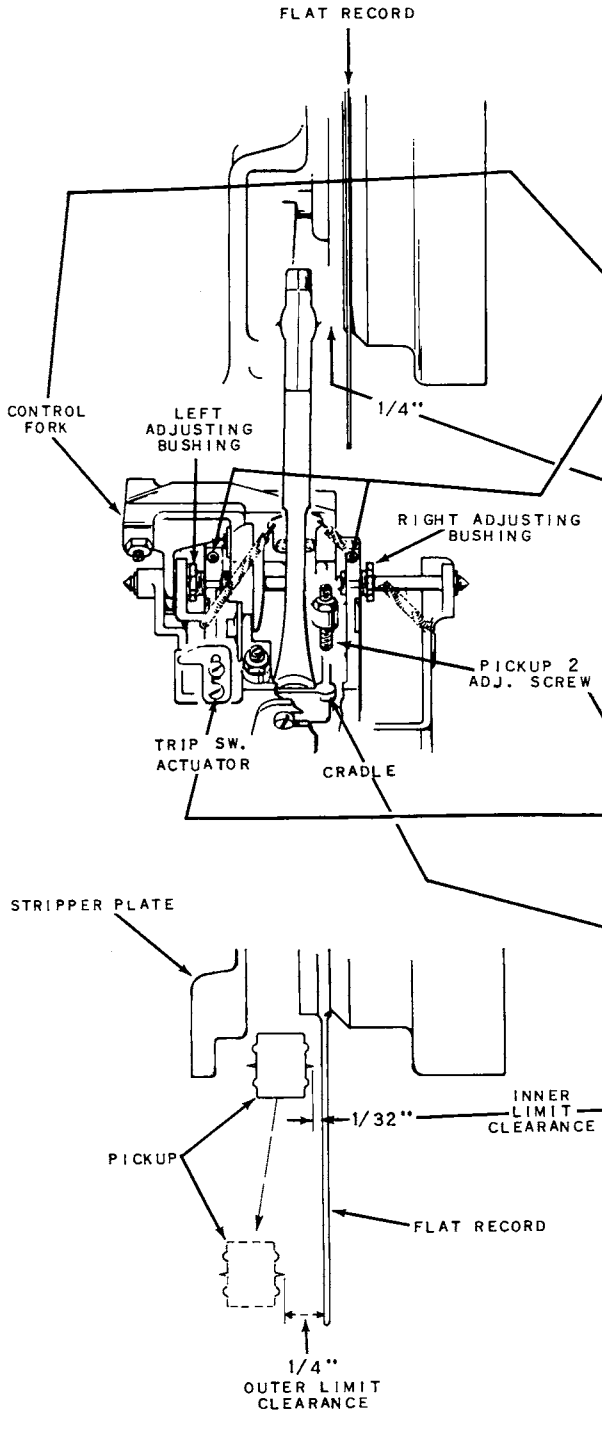
(C) Move Pickup Arm in as far as possible toward Flywheel.

(D) Loosen Lock Nut and adjust screw so that needle cannot move in toward Flywheel any farther than the inscribed mark, as shown.

(E) Tighten Lock Nut.

"PICKUP 7" - - PICKUP LIFTING ADJUSTMENTS

This adjustment establishes correct Pickup lifting action and clearance between the needle and record when the Pickup is lifted and returned to its rest position.



NOTE: - "Pickup 6" adjustment should be correct before making this adjustment.

(A) Place mechanism in Left side PLAY position with a flat record clamped on Flywheel. Turn off power and loosen both socket head set screws holding Adjusting Bushings.

(B) Pull Control Fork forward to the limit of its travel and - - -

(C) adjust Left Adjusting Bushing for 1/4" clearance between record and needle.

(D) Release Control Fork and move Pickup toward center of Flywheel to limit of its travel.

(E) Hold Pickup in this position by pressing inward lightly on Trip Switch Actuator.

(F) Pull Control Fork down lightly until "Pickup 2" adjusting screw just touches Cradle.

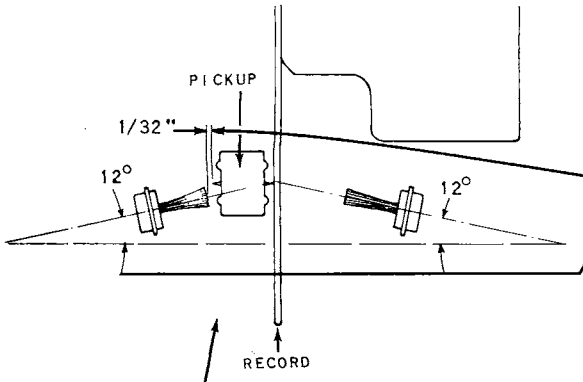
(G) In this position of the Pickup Arm and Control Fork the needle should be a minimum of 1/32" from the record.

(H) Repeat above for Right side PLAY position using Right Adjusting Bushing to make adjustment.

(J) Tighten both set screws.

"PICKUP 8" - - BRUSH POSITION ADJUSTMENTS

This adjustment establishes 1/32" clearance between the outer needle and the Brush while a record is being played.



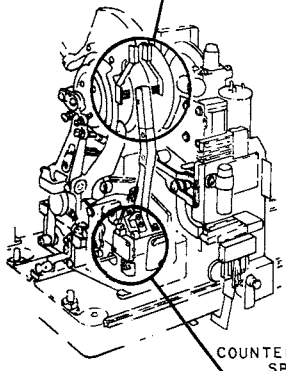
(A) The Brush Mounting Brackets are set so the bristles "point" approximately 12 degrees toward record center.

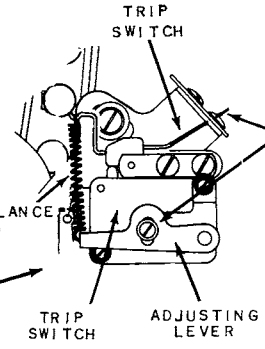
(B) The Brackets should be formed so the outer needle clears the brush by 1/32" while a record is played.

(C) Check for correct clearance on both Right and Left sides.

"PICKUP 9" - - TRIP SWITCH PRESSURE ADJUSTMENT

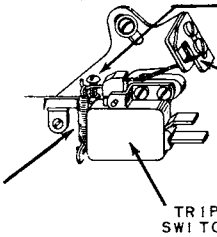
This adjustment establishes the pressure required to operate the Trip Switch at 1-1/2 to 2 grams as measured at the end of the Trip Lever.





(A) Loosen screw and adjust Counterbalance Spring by moving Adjusting Lever up or down.

Pressure required to trip the Switch should be 1-1/2 to 2 grams as measured with a gram scale at this point.

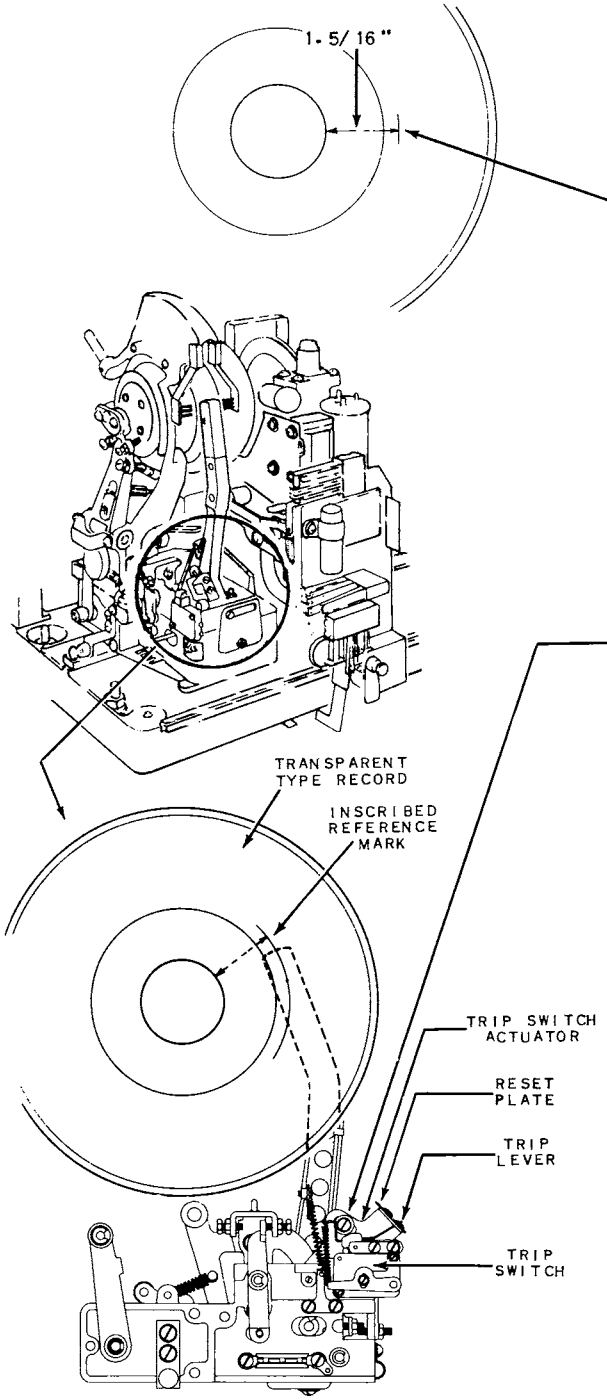


NOTE: - On 145-S2 mechanisms below Serial #2952 the Counterbalance Spring adjustment is made by means of an Adjusting Screw.

Pressure required to trip the Switch should be 1-1/2 to 2 grams as measured with a gram scale at this point.

"PICKUP 10" - - "RECORD CUT-OFF" (TRIP SWITCH ACTUATOR ADJUSTMENT)

This adjustment establishes the "Record Cut-off" position and results in tripping of the mechanism when the needle has reached a point 1-5/16" from the edge of the hole in the record.



NOTE: - "Pickup 9" adjustment should be correct before making this adjustment.

(A) Inscribe a line on a record 1-5/16" away from edge of hole as shown. (Use a transparent type record if available.)

(B) Place mechanism in Right side PLAY position with inscribed record clamped on Flywheel. Turn off power.

(C) Loosen screw and position Trip Switch Actuator so that Trip Switch will operate when needle reaches inscribed mark.

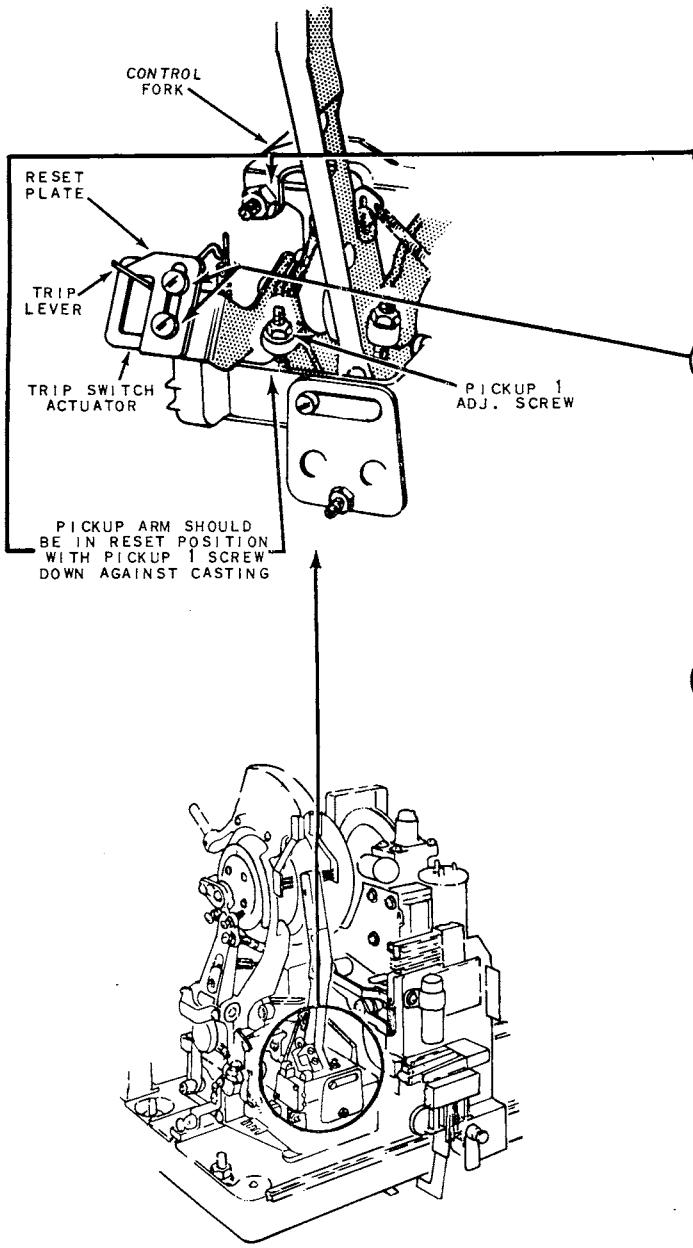
(DO NOT BEND TRIP LEVER TO MAKE ADJUSTMENT.)

(D) Tighten screw and check for normal operation by playing several Left and Right sides of records.

NOTE: - If the position of the Trip Switch actuator is changed be sure to readjust and check "Pickup 11".

"PICKUP 11" - - TRIP SWITCH RESET ADJUSTMENT

This adjustment results in proper resetting of the Trip Switch when the Pickup Arm returns to its rest position.



NOTE: - "Pickup 9 and 10" adjustments should be correct before making this adjustment.

(A) Place mechanism in PLAY position and pull Control Fork down until Pickup Arm is in its reset position.

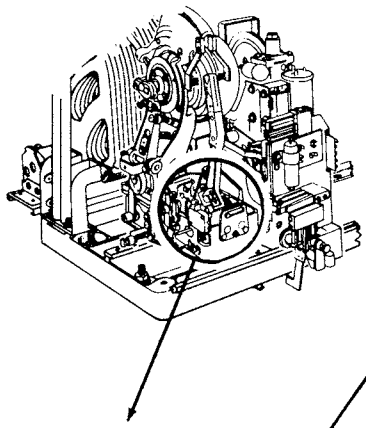
(B) In this position loosen screws and adjust Reset Plate so Trip Switch is fully reset.

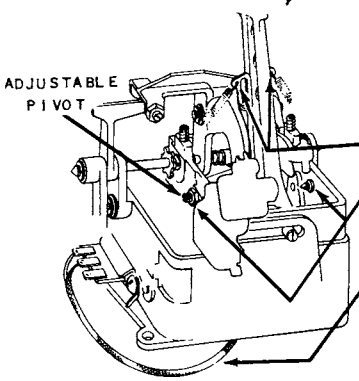
When adjusted correctly the Trip Switch should be reset but the Trip Lever should not apply any upward pressure against the reset plate.

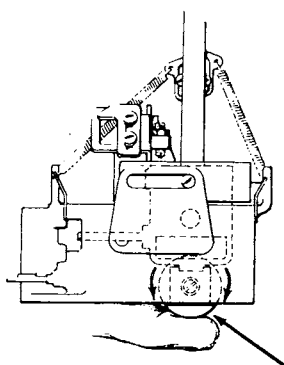
(C) Check by releasing Control Fork. Needle should land properly on record without "Booster" action from Trip Lever.

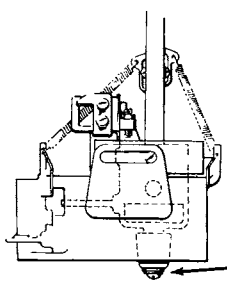
"PICKUP 12" - - PICKUP BALANCE ADJUSTMENT

This Adjustment results in proper balancing of the Pickup Arm and Cradle Assembly and assures maximum record and needle life.









NOTE: Before making this adjustment:

1. Check Cradle Pivots for binds. There should be no play but the Arm and Cradle should move freely on the Pivots.

2. Check Pickup lead to be sure it hangs freely below Cradle and does not touch the carriage or at any place along the base casting.

(A) Place mechanism in PLAY position with a record clamped on Flywheel and turn off power.

(B) Remove both Needle Pressure Springs.

(C) Adjust the position of the pickup arm counter-weight* so the arm is "in balance" at the record cut-off groove and at a point 1" in from the outer edge of the record.

Check the balance by holding the pickup 1/8" to 1/4" from the record, releasing carefully, and observing the DIRECTION in which it moves. Ignore the slow movement toward or away from the record surface. There should be no <u>in or out</u> movement (toward or away from the record center). In or out movement indicates that the pickup arm is not "in balance" at the point of check and requires adjustment of the counter-weight position.

(D) Replace needle pressure springs and check "Pickup 13" Adjustment.

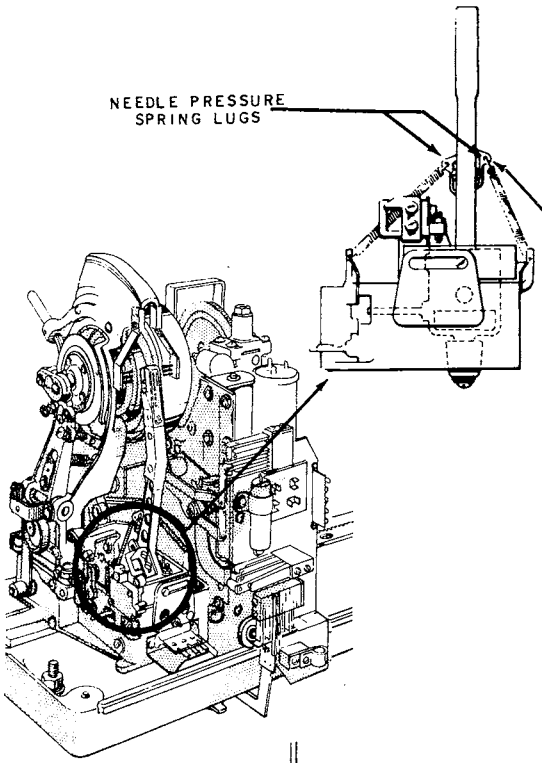
*There are two types of Counter-weights.

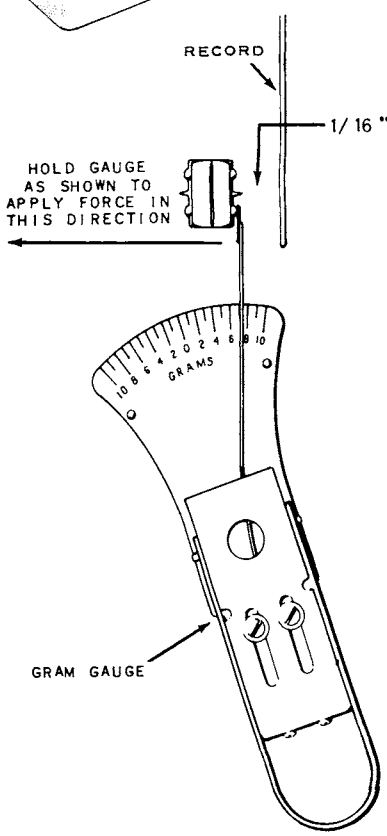
The ROLLER TYPE is adjusted by turning the Roller as shown.

The SLIDING WEIGHT TYPE is adjusted by loosening the screw and sliding the weight forward or back as required.

"PICKUP 13" - - NEEDLE PRESSURE ADJUSTMENTS

This adjustment establishes the needle pressure for both Right or Left sides. Correct pressures result in proper tracking and in a minimum of needle and record wear.





(A) Place mechanism in Left Side PLAY position with a flat record clamped on the Flywheel.

(B) Turn off power so record is not turning.

(C) Adjust position of Pressure Spring Lug on right side of Pickup Arm so that needle pressure is 7 to 8 grams with Part No. 245789 pickup or 4½ to 5½ grams with Part No. 246796 pickup. *

(D) Repeat same procedure on Right Side PLAY position by adjusting the Pressure Spring Lug on left side of the Pickup Arm for 7 to 8 or 4½ to 5½ grams needle pressure. The pressure must be equal on the right and left sides.

NOTE: - For accurate adjustment needle pressure should be measured with a gram gauge as follows:

(1) Place the tip of the gauge spring against the Pickup case at the "Bump" next to the needle tip and lift the Pickup so the needle is about 1/4" from the record.

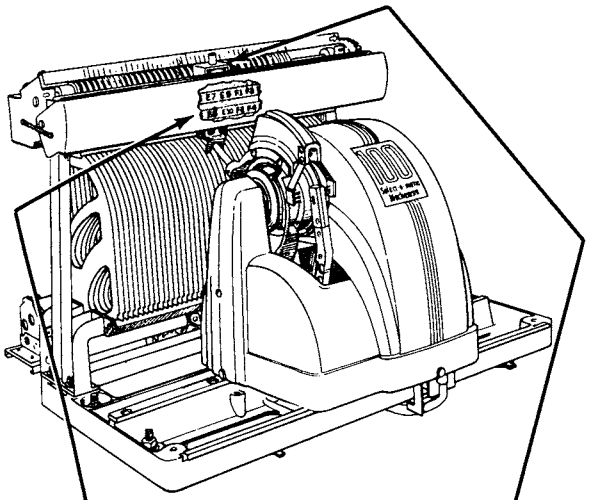
(2) Slowly relax the force of the gauge against the Pickup so the needle moves toward the record.

(3) Stop the inward movement when the needle is about 1/16" from the record and read indicated pressure on gauge.

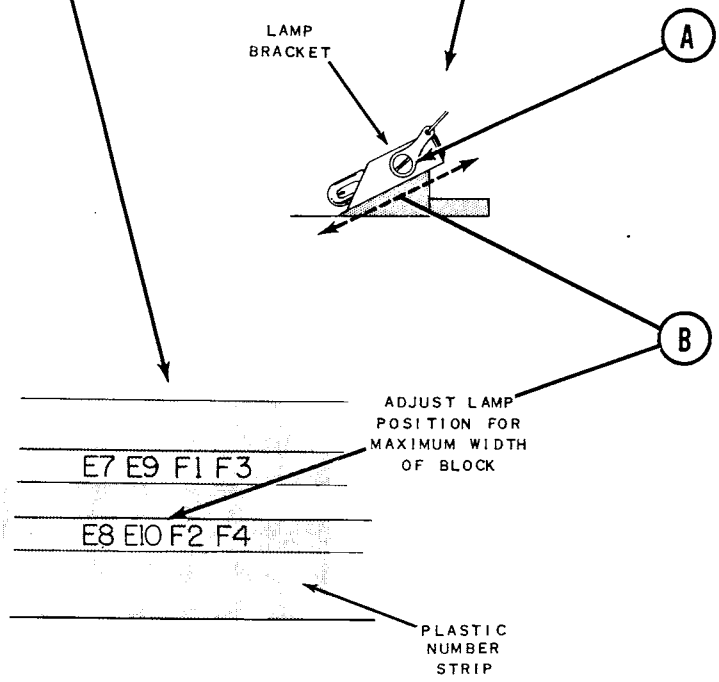
* Part number of pickup is stamped on the side of the cartridge.

"SELECTION PLAYING INDICATOR I" LAMP REPLACEMENT AND ALIGNMENT

This adjustment aligns the Selection Playing Indicator Lamps with the openings in the Slide for maximum width of the Block of light cast on the Plastic Number Strip.



The Selection Playing Indicator illuminates the number of the selection being played. It contains two #47 lamps which are operated alternately through a sliding bar type switch. The lamps shine through windowlike openings in a Slide, projecting a block of light on a Numbered Plastic Strip.

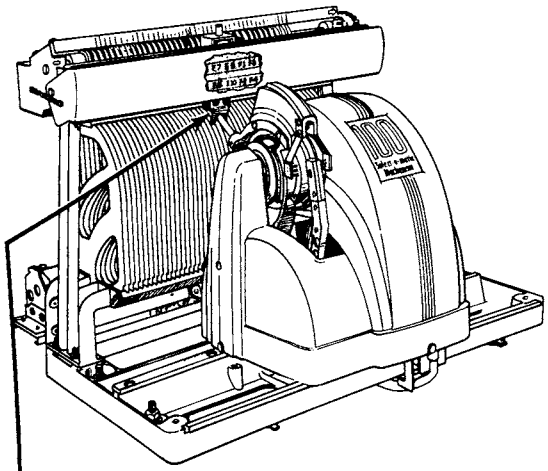


A To replace defective lamps, remove screw and lift out Lamp Bracket. This makes lamps accessible for replacement.

B To adjust lamp position, loosen screw and move Lamp Bracket, as shown, until block of light on Number Strip has maximum width.

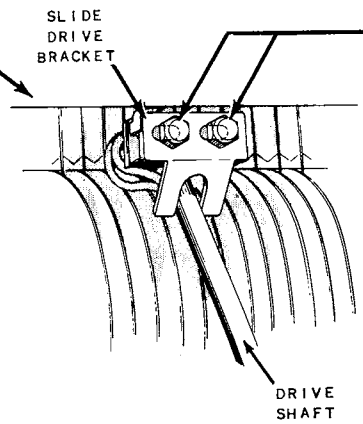
"SELECTION PLAYING INDICATOR 2" - - SLIDE POSITION

This adjustment aligns the Selection Playing Indicator Slide with the numbers on the Plastic Number Strip.



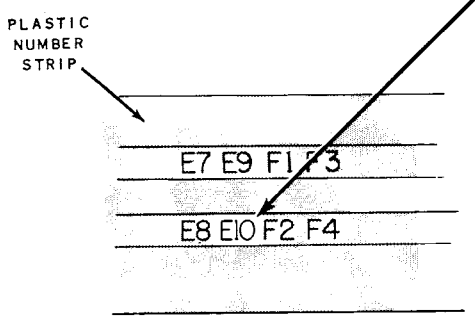
NOTE: "Selection Playing Indicator 1" should be correct before making this adjustment.

(A) Place mechanism in E10 PLAY position.



(B) Loosen Cap Nuts.

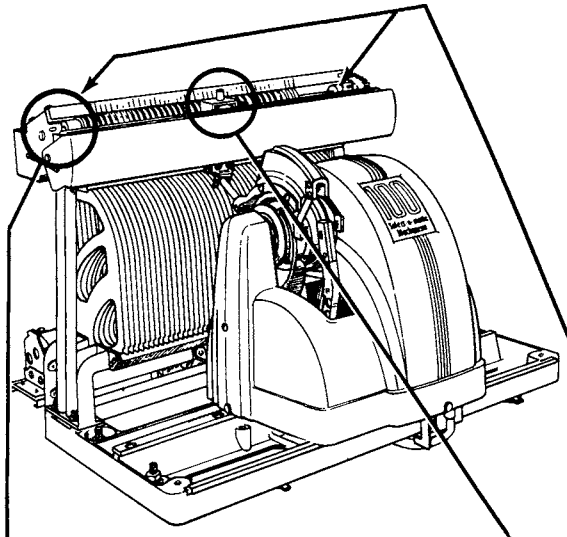
(C) Position Slide Drive Bracket so that block of light from Indicator Lamp is centered with E10 on the Number Strip. Tighten Cap Nuts.

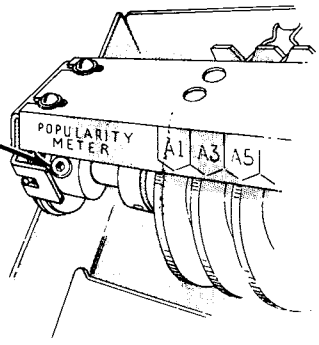


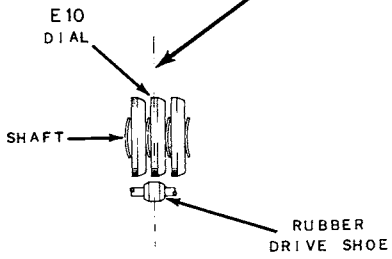
Note that moving the Slide position for this adjustment also changes the position of the rubber Drive Shoe which operates the Popularity Meter Dials. If above adjustment is changed, check "Popularity Meter 1" adjustment.

"POPULARITY METER 1" - - DIAL ASSEMBLY POSITION

This adjustment centers the knurled edges of the Popularity Meter Dials with the Rubber Drive Shoe of the Dial Drive Assembly.







NOTE: "Selection Playing Indicator 2" should be correct before making this adjustment.

The Popularity Meter Dials are driven by a Rubber Drive Shoe which is operated by the Popularity Meter Solenoid. For normal operation of the Popularity Meter, the Rubber Drive Shoe should be approximately centered with the knurled edge of each Dial when the mechanism is locked in its PLAY position. To adjust for correct alignment of the Dials with the Drive Shoe proceed as follows.

(A) Place mechanism in E10 PLAY position.

(B) Loosen set screws on the collars at both ends of the Dial Shaft.

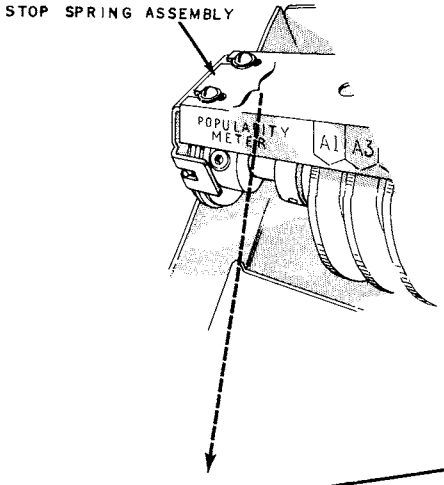
(C) Move Shaft and Dial Assembly to left or right until knurled driving surface of Dial E10 is centered with the Rubber Drive Shoe.

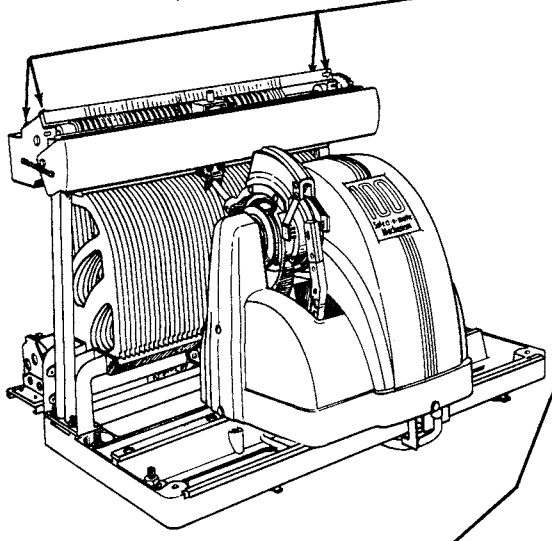
(D) Lock collars in place with set screws allowing about 1/64" end play in shaft to prevent binding.

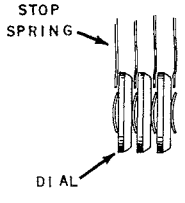
NOTE: If the Dial Assembly position is changed be sure to check "Popularity Meter 2" adjustment.

"POPULARITY METER 2" - - STOP SPRING ASSEMBLY POSITION

The Stop Springs stop the Dials when they reach maximum position and when they are returned to zero position. This adjustment centers the Stop Springs so they do not rub excessively against the Dials or hinder normal operation.







(A) Loosen screws at both ends of Stop Spring Assembly.

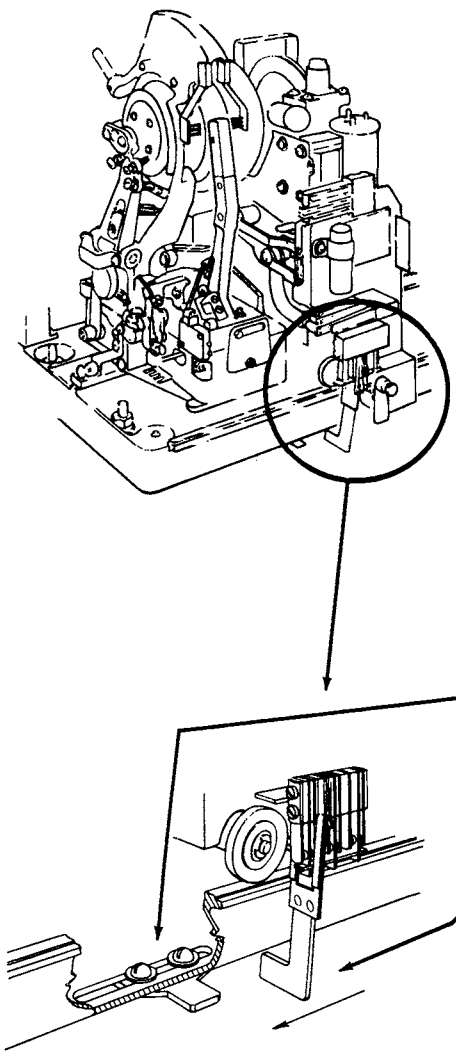
(B) Move Stop Spring Assembly to left or right until all springs are approximately centered between Dials.

(C) Tighten Screws.

NOTE: Dials should not drag against any of the Stop Springs. Check for binds by turning all Dials up to their maximum position by hand then rotating Dial Shaft. All dials should return freely to their zero position without binds.

"REVERSING SWITCH 1" - - SWITCH BRACKETS

This adjustment positions the Reversing Switch Brackets so the Switch operates when the carriage is 1/2" past the end record positions.



(A) Loosen screws holding left Reversing Switch Bracket and move Bracket all the way to the left.

(B) Select A2 and turn off power when selection is *playing*.

(C) Make a reference mark on the base casting to indicate the A1-A2 record position of the carriage.

(D) Return mechanism to SCAN and turn the motor shaft manually until the mechanism has moved 1/2" to the LEFT of the reference mark made on the base

Reversing Switch Lever should still be to the left.

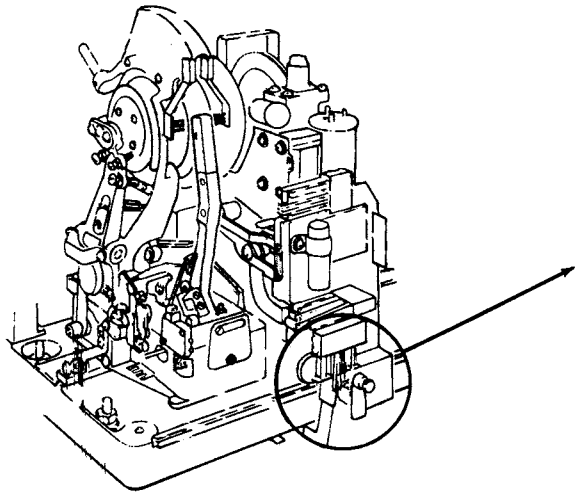
(E) Move the Bracket slowly and carefully to the right until it is at the point where the reversing switch operates.

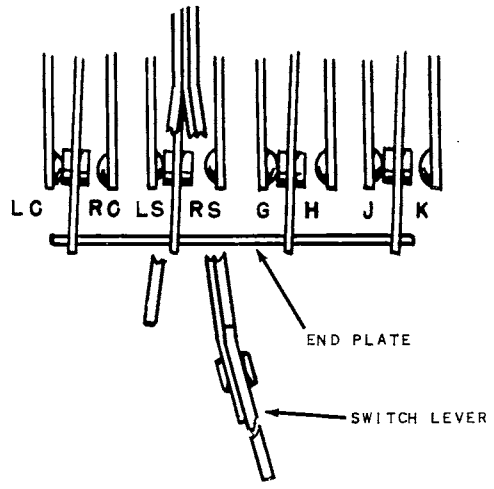
(F) Scan the carriage out of the way to the right, being careful not to move the Bracket, and tighten the bracket holding screws.

(G) Adjust the RIGHT Reversing Switch Bracket so the Switch operates when the carriage is 1/2" to the RIGHT of the K9-K10 record position.

See "Reversing Switch 2" for contact gap adjustment.

"REVERSING SWITCH 2" - - CONTACT GAP AND PRESSURE ADJUSTMENTS





CONTACTS	CONTACT GAPS	CONTACT FUNCTIONS*
L C	1/64" clearance when Switch Lever is to Left.	Connects Left Pin Cancel Solenoid to Cancel Circuit.
R C	1/64" clearance when Switch Lever is to Right.	Connects Right Pin Cancel Solenoid to Cancel Circuit.
L S	1/64" clearance when Switch Lever is to Left.	Connects Trip Solenoid to "L" Trip Contact for Left Side Selections.
R S	1/64" clearance when Switch Lever is to Right.	Connects Trip Solenoid to "R" Trip Contact for Right Side Selections.
G & J	.020" gaps at instant H and K Just open	These contacts closed so motor turns for SCANNING to RIGHT and for PLAYING LEFT SIDES.
H & K	.020" gaps at instant G and J Just open	These contacts closed so motor turns for SCANNING to LEFT and for PLAYING RIGHT SIDES.

*See Schematic Diagrams for Circuit.

ADJUSTMENT PROCEDURE

Caution: - Turn Off Power!! 117 volts on G-H and J-K contacts

A Move Switch Lever to Left

B Adjust LC and LS for 1/64" gaps.

C Push bakelite End Plate slowly to Left. At instant H and K just break, G and J must have .020" gaps.

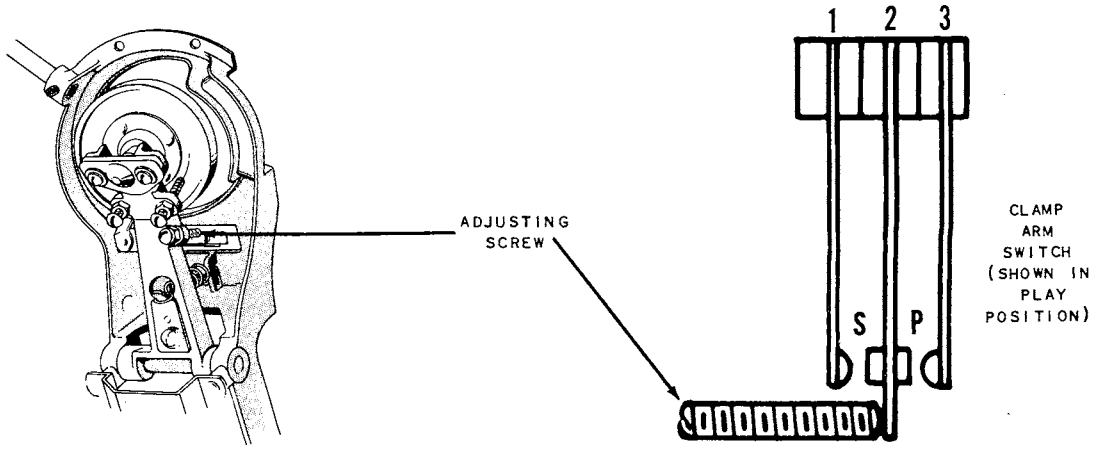
D Move Switch Lever to Right.

E Adjust RC and RS for 1/64" gaps.

F Push bakelite End Plate slowly to Right. At instant G and J just break, H and K must have .020" gaps.

All contacts must have 35 grams (1-1/4 oz.) minimum pressure when closed.

"CLAMP ARM SWITCH" - - CONTACT GAP AND BLADE PRESSURE ADJUSTMENT



CONTACTS	CONTACT GAP	CONTACT FUNCTIONS*
P	1/32" gap in PLAY position with normal record clamped on turntable. Closed in PLAY position if there is no record clamped to turntable.	"No-record" reject. Closes circuit to trip solenoid if there is no record on the turntable when mechanism is in play-position.
S	1/32" gap in PLAY position with normal record clamped on turntable. Closed in SCAN position and stays closed in PLAY if record fails to clamp properly.	Closes circuit to trip solenoid if record fails to clamp properly due to undersize hole, off-center position of record, etc.

*See Schematic Diagrams for Circuit.

ADJUSTMENT PROCEDURE

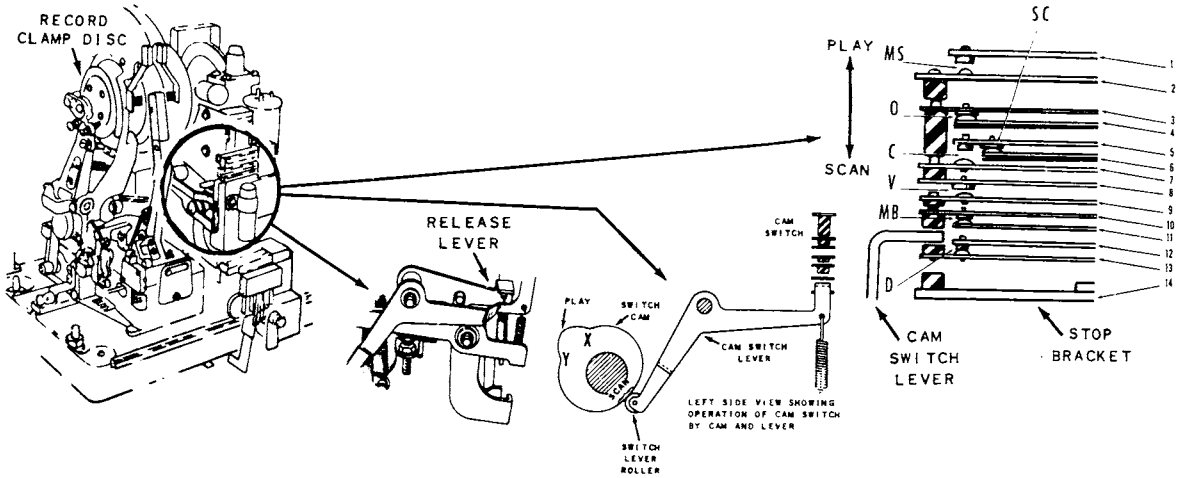
A With mechanism in SCAN, bias center blade (#2) tightly against "S" contact.

B With mechanism in PLAY and a normal record clamped on turntable - -

1. Turn adjusting screw until "P" contact just closes lightly, then back it out one turn. Tighten Lock Nut.
2. Adjust blade #1 for 1/32" gap in "S" contacts.

Contacts should have 1 oz. minimum pressure when closed.

CAM SWITCH – CONTACT GAP AND PRESSURE ADJUSTMENTS



CONTACTS	CONTACT GAP	CONTACT FUNCTIONS *
MS	1/16" gap in SCAN position. Starts to close when pickup approaches record. Closed in PLAY position.	Squelch circuit for use with Automatic Volume Compensator. *See Note.*
O	3/64" gap in PLAY position. Closed in TRANSFER and SCAN.	Adds 1.4 mfd condenser to motor circuit during TRANSFER and SCAN.
SC	1/64" gap in PLAY position. Closed in SCAN position.	Pin Cancel Solenoid Circuits. Just before the mechanism enters PLAY position the C and SC contacts "Make and Break" controlling the Cancel Pulse which operates either the Left or Right Pin Cancel Solenoid.
C	1/32" gap in SCAN and during most of TRANSFER. Starts to close when record Clamp Disc first engages the turntable.	
V	1/32" gap in SCAN and during most of TRANSFER. Starts to close when record Clamp Disc first engages the turntable.	Trip Solenoid Circuit. Completes all circuits which can operate Trip Solenoid in PLAY position.
MB	1/64" gap in PLAY position. Closed in SCAN position.	Mute Circuit. Maintains muting action during SCAN.
D	1/64" to 1/16" gap in SCAN	Motor Carry-over Switch. Keeps motor running (after last Selection Lever has been cancelled) until last selection is played and record is partially returned to the Magazine.

* See Schematic Diagrams for complete circuit.

ADJUSTMENT PROCEDURE

1 Place mechanism in Scan Position and TURN OFF POWER.

2 Trip mechanism by lifting Release Lever and manually turn motor shaft until record Clamp Disc first engages the Turntable. (This places cam so Switch Lever Roller is at position X.)

- **A** Bias blades 9 and 10 down tight against Switch Lever with MB closed. (1½ oz. pressure).
- **B** Bias blade 7 against blade 8 and adjust for 1/32" gap in V Contacts.
- **C** Bias blade 3 down so fiber lift touches blade 7 with O Contacts closed. (1½ oz. pressure). V Contacts should still have 1/32" gap.

D With SC Contacts closed (1½ oz. pressure) adjust for 1/32" gap in C Contacts.

3 Turn motor shaft until mechanism is fully in PLAY position. (This places cam so Switch Lever Roller is on Play position "Peak").

A Adjust blade 4 for 3/64" gap in O Contacts.

B Adjust blade 6 for 1/64" gap in SC Contacts.

C Adjust blade 11 for 1/64" gap in MB Contacts.

4 Trip mechanism by lifting Release Lever and manually turn motor shaft until Clamp Disc begins movement away from Turntable. (This places cam so Switch Lever Roller is at position Y).

A Check for 1/32" gap in C Contacts with SC closed. (1½ oz. pressure).

B Check to see that blades 9 and 10 bear against Switch Lever.

C Check for 1/32" gap in V Contacts.

D Bias blade 13 against Switch Lever with D Contacts closed (1½ to 3 oz. pressure). Fiber stop on the Stop Bracket (14) must clear blade 13 by 3/64".

E Adjust blade 12 by "cut-and try" until mechanism will not coast into Scan Position. (Mechanism can stop any time after record is unclamped and partially returned to the Magazine but it should not coast into SCAN.)

F With mechanism in Scan Position, Adjust position of Stop Bracket (blade 14) for 1/64" to 1/16" gap between D Contacts.

G Adjust blade 1 so fibre lift is touching lightly on blade 3.

5 Trip and operate mechanism until it is in SCAN position. *See Note.*

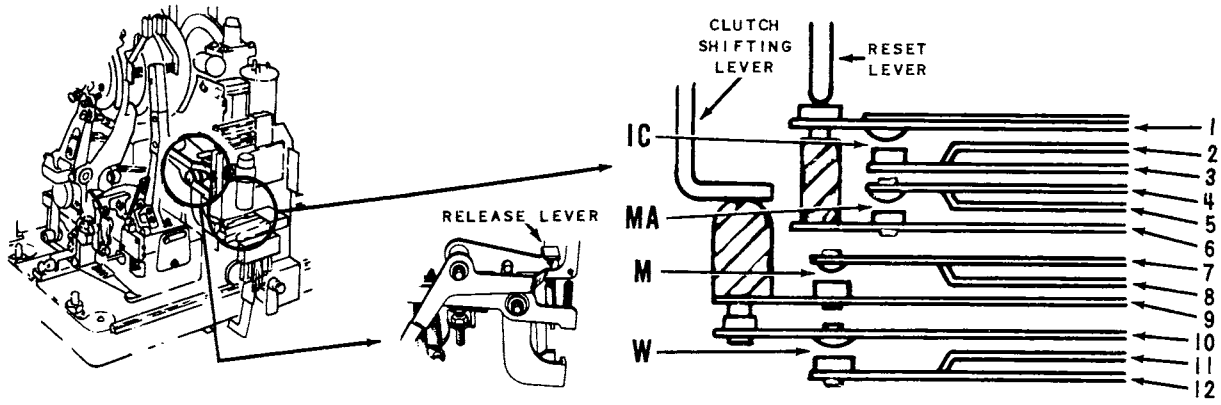
A Adjust blade 2 so fibre lift bears lightly against blade 3.

B Adjust blade 1 for 1/16" gap between MS contacts.

NOTE: Step 5 is for adjustment of the MS contacts. These contacts are not included in the cam switch of mechanisms associated with amplifiers not having automatic volume compensation feature.

Select-O-Matic "100" Mechanism, Type 145S2-L6

CLUTCH & RESET LEVER SWITCHES
CONTACT GAP & PRESSURE ADJUSTMENT



NOTE: "Clutch 1" to "4" Mechanical Adjustments must be correct before adjusting these switches.

CONTACTS	CONTACT GAPS	CONTACT FUNCTIONS*
IC	1/16" gap when mechanism trips. Closed in SCAN and PLAY positions.	Part of Pin Cancel Solenoid Circuits. Allows cancellation of Selection Lever when mechanism is transferring into PLAY position but prevents "Extra" cancellation when mechanism is transferring out of PLAY position.
MA	1/64" gap in PLAY position. Closed in Tripped position.	Part of Mute Circuit. Mutes Amplifier at end of record at instant Trip Solenoid is operated.
M	1/64" gap in PLAY position. Closed during Transfer cycles.	Part of Mute Circuit. Maintains Muting action during entire Transfer cycle.
W	1/32" gap in PLAY position. Closed in SCAN position.	Part of Trip Solenoid circuit for both Left and Right side selections.

*See Schematic Diagrams for Circuit.

ADJUSTMENT PROCEDURE

1 Place mechanism in Scan Position and TURN OFF POWER.

2 Trip by manually lifting Release Lever. While mechanism is in this position:

- A Bias blade 1 to within 1/16" of Reset Lever.
- B Bias blade 6 so its fibre lift is against blade 1.
- C Bias blade 9 so its fibre lift is against Clutch Shifting Lever.
- D Bias blade 10 so its fibre lift is against blade 9.
- E Bias blade 3 against bracer blade 2 and adjust blade 2 for 1/16" gap between IC Contacts.

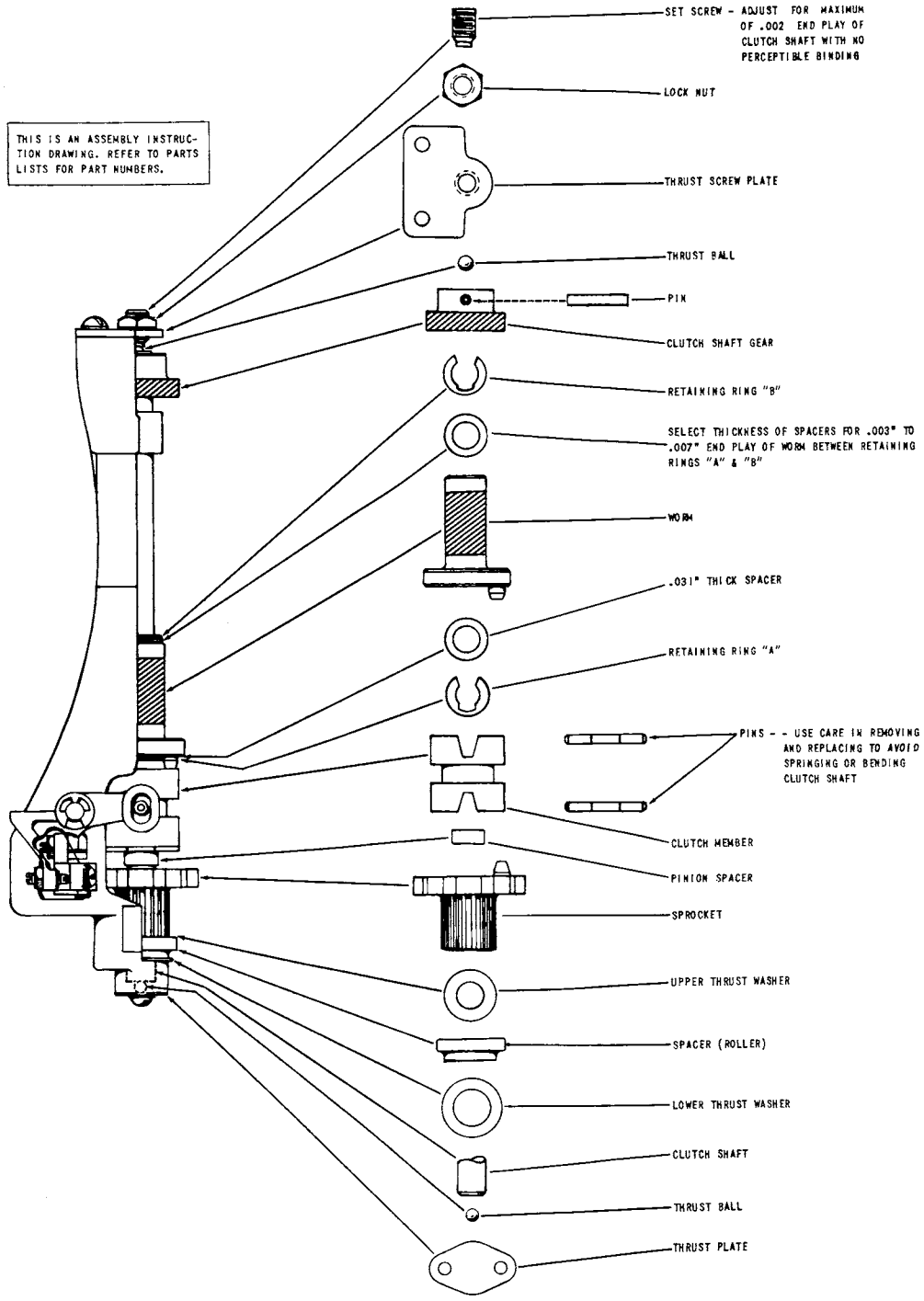
3 Reset mechanism by pressing down on Release Lever.

- A Bias blade 4 against bracer blade 5 and adjust blade 5 for 1/64" gap between MA Contacts.

4 Trip mechanism by lifting Release Lever and turn motor shaft manually until mechanism is in Play Position.

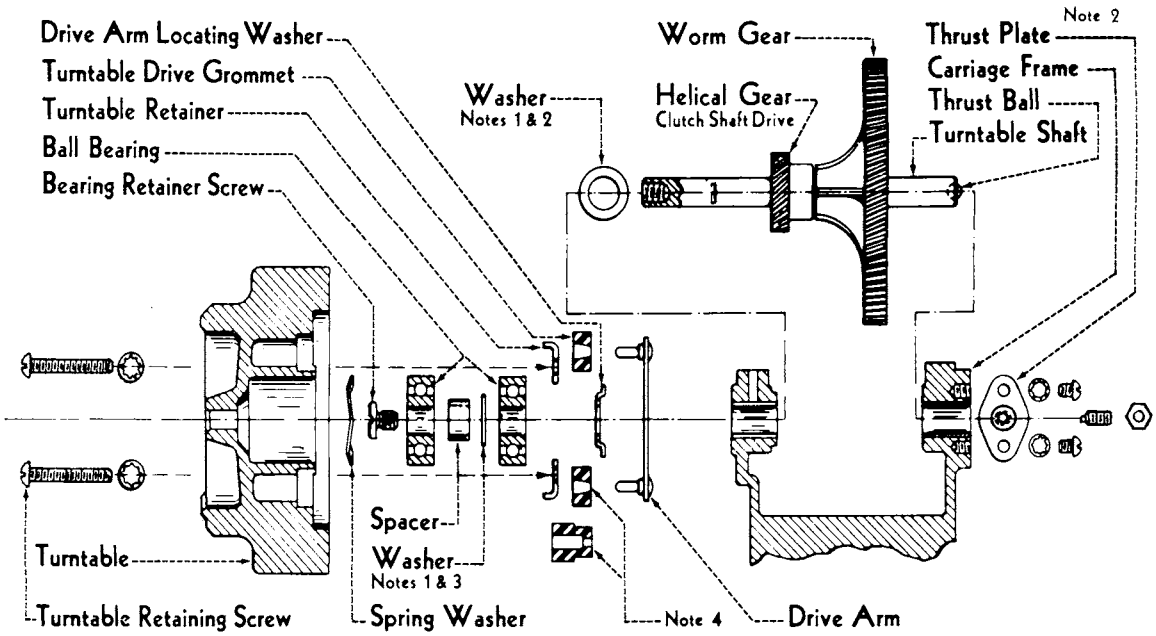
- A Bias blade 7 against bracer blade 8 and adjust blade 8 for 1/64" gap between M Contacts.
- B Bias blade 12 against bracer blade 11 and adjust blade 11 for 1/32" gap between W Contacts.

CLUTCH & HOUSING ASSEMBLY, PART #245400, INSTRUCTION



BE SURE CLUTCH WORM AND CAM SHAFT DRIVE GEAR ARE CORRECTLY MESHED BEFORE TIGHTENING CLUTCH ASSEMBLY MOUNTING SCREWS.

TURNTABLE, SHAFT, and GEAR INSTALLATION



Note 1: ..... Washer Part No. 72277 - .005" thick
" " " 72278 - .010" "
" " " 72279 - .015" "

Note 2: ..... Select Washers and install between Clutch Shaft Drive Gear and left Turntable Shaft Bearing so end play of Turntable Shaft is .003" to .007". When thrust plate has screw for adjusting end play of shaft, use one No. 72279 washer and adjust for .003" to .007" end play with screw.

Note 3: ..... Select Washers and install between Spacer and Ball Bearing so end play of Turntable on the Shaft is a maximum of .015". To check this, hold Turntable Shaft firmly against the Thrust Plate, by pressing against the Worm Gear, and move the Turntable to the right in a direction parallel to the Turntable Shaft. The Spring Washer must always take out the end play by returning the Turntable to the left when released.

Note 4: ..... Turntable Drive Grommet with tapered center hole is to be installed with small end of tapered hole toward the Drive Arm. When assembled correctly, the part number, which is molded on the end with the large end of the center hole, will not be visible.

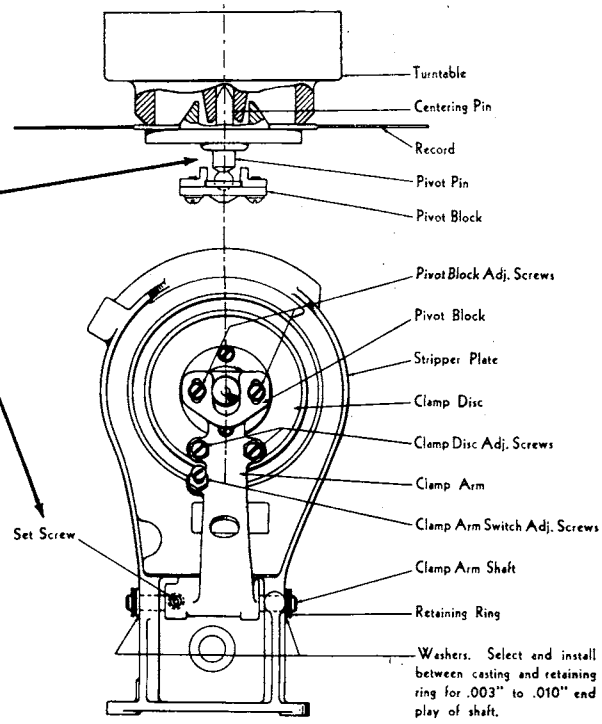
Drive Grommets with "step" should be installed with the small diameter end toward the Drive Arm.

Lubrication: The Gears should have a light coating of Stanodrip #29 (Standard Oil Co) oil. Do not use more oil than will adhere to the Gears. The felt wick in the Thrust Screw for the Turntable Worm (which meshes with the Worm Gear) must be placed in the hole in the screw so it is in contact with the Thrust Ball. The wick should be saturated with Stanodrip #29 oil.

INSTALLATION of CLAMP & TRANSFER ARMS

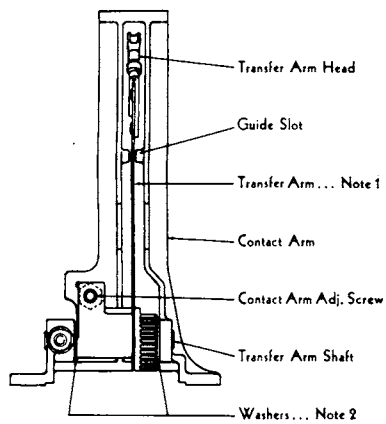
With the Set Screw loose and a Record clamped on the Turntable, adjust the horizontal position of the Clamp Arm so the Center Line through the Pivot Pin forms a right angle with the Clamp Disc and Record.

When installation is complete, readjust Clamp Arm. Refer to Page 2146.

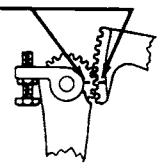


Note 1: Transfer Arm should be straight and should form a right angle with the Transfer Arm Shaft.

Note 2: Washers, Part No. 72174 (.015"), 72280 (.010"), 72281 (.020"), 72282 (.031") should be selected and placed at both ends of the Transfer Arm hub so the Arm falls in the center of the Guide Slot in the Contact Arm and so the end play of the Arm is .003" to .007". There must be at least one washer at each end of the hub.

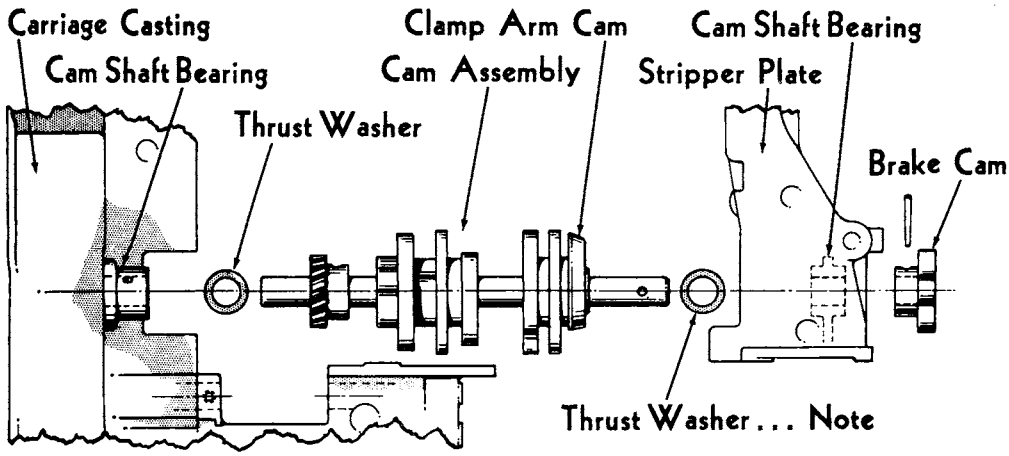


Note 3: When installing assembly on carriage, mechanism and Transfer Arm should be in SCAN position with reference marks aligned as shown.



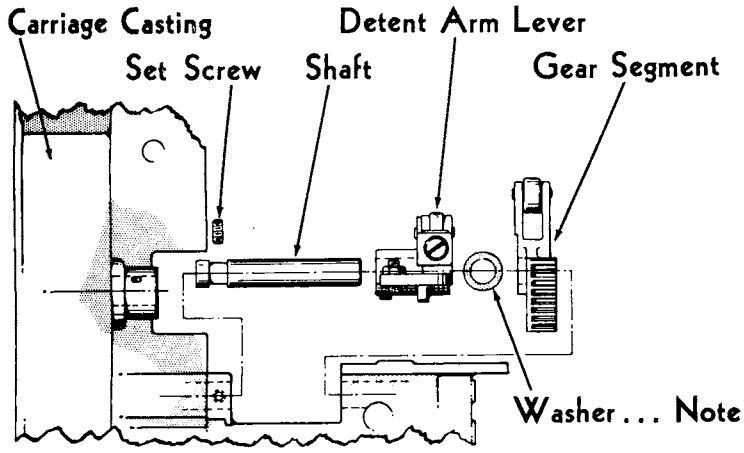
When installation is complete, readjust Transfer Arm. Refer to Pages 2149 and 2150.

INSTALLATION of CAM ASSEMBLY, DETENT ARM & GEAR SEGMENT



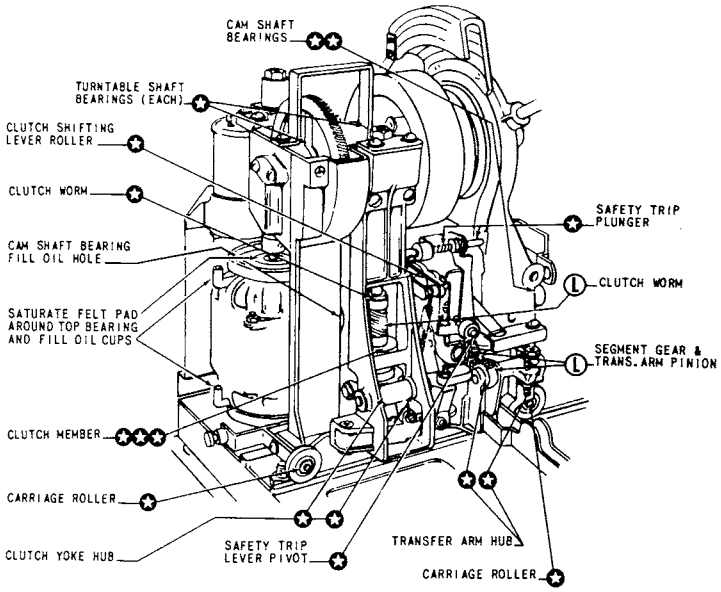
Note: Washers, Part No. 72245 (.020"), 72227 (.005"), 72228 (.010"), 72229 (.015") should be selected and installed between the Clamp Arm Cam and the Thrust Washer so the end play of the Cam Assembly is .003" to .010".

After the proper washers have been installed, the cam assembly should be checked by manual rotation, a full turn in either direction without evidence of binds.



Note: Washers, Part No. 72216 (.015"), 72217 (.010"), 72254 (.005") should be selected and installed between the Detent Arm Lever and the Gear Segment so the end play is .003" to .010".

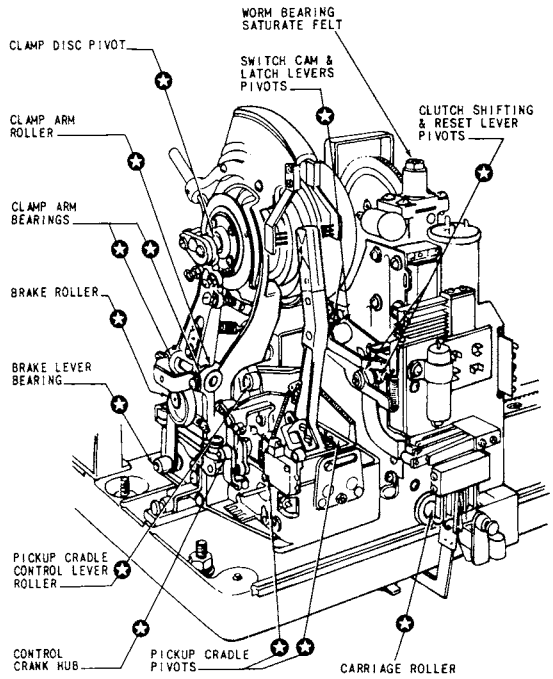
LUBRICATION

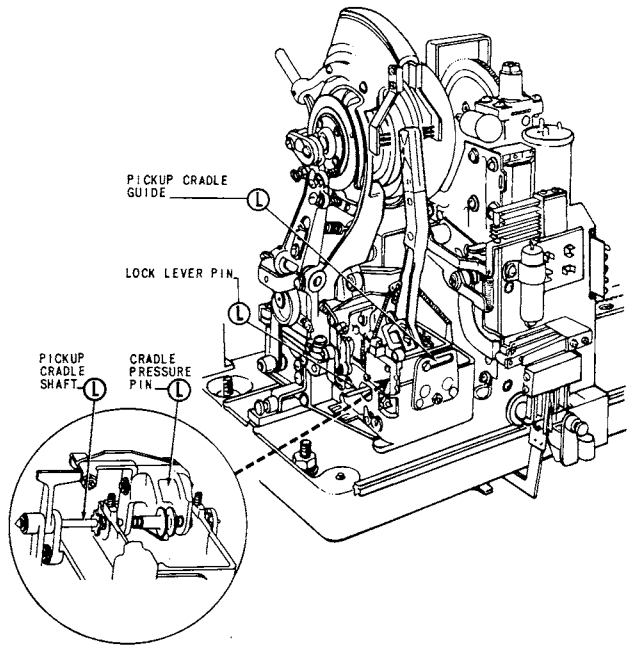


OIL ALL ROLLER PIVOT BEARINGS
1 or 2 DROPS. USE SAE 20 OIL.

USE SAE 20 OIL EVERY SIX MONTHS IN THE AMOUNT SHOWN - - - - -
1 DROP FOR EACH ✪

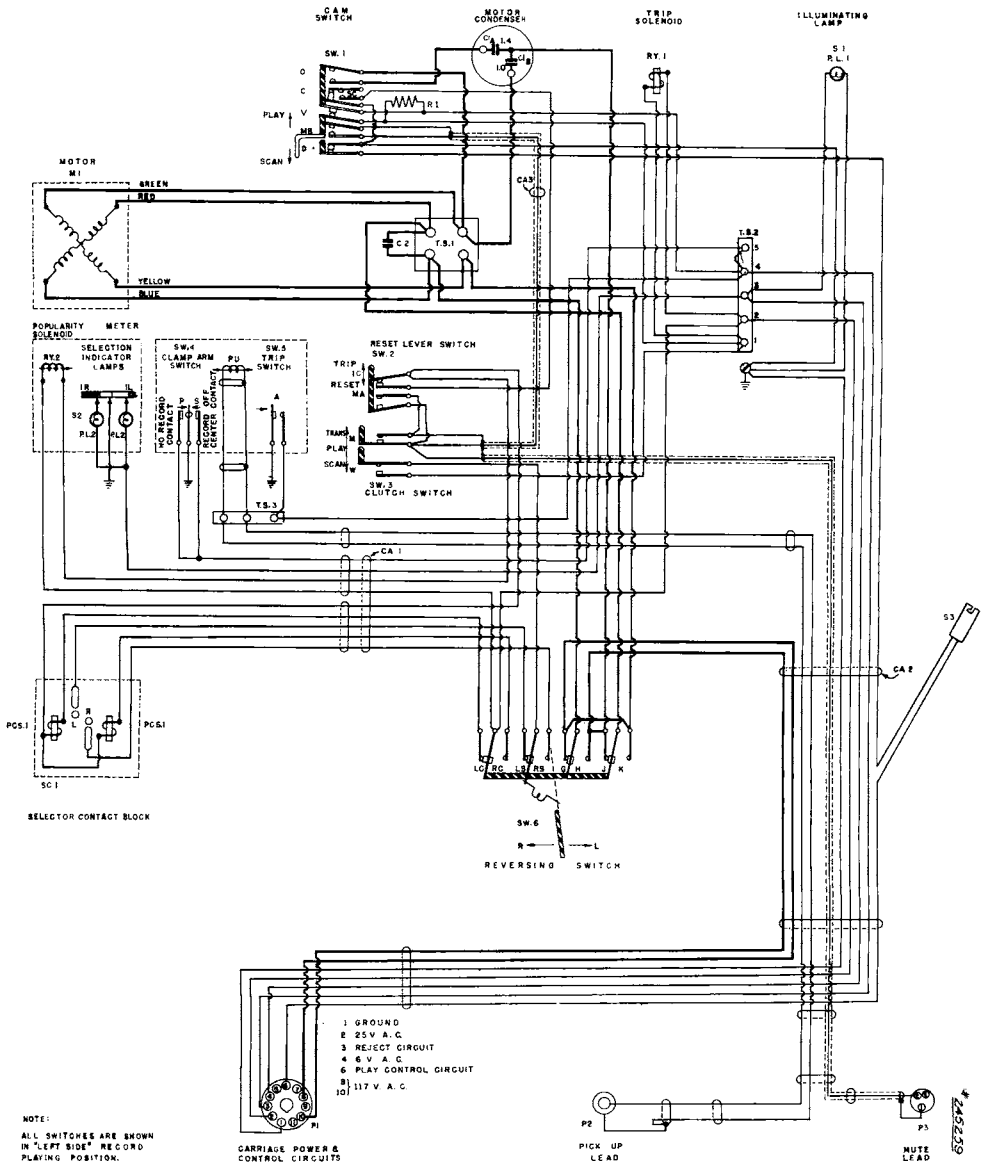
USE AERO LUBRIPLATE* SPARINGLY EVERY SIX MONTHS AT (L)





*AERO LUBRIPLATE MAY BE OBTAINED FROM THE SERVICE PARTS DEPARTMENT AT YOUR DISTRIBUTOR

SCHEMATIC DIAGRAM



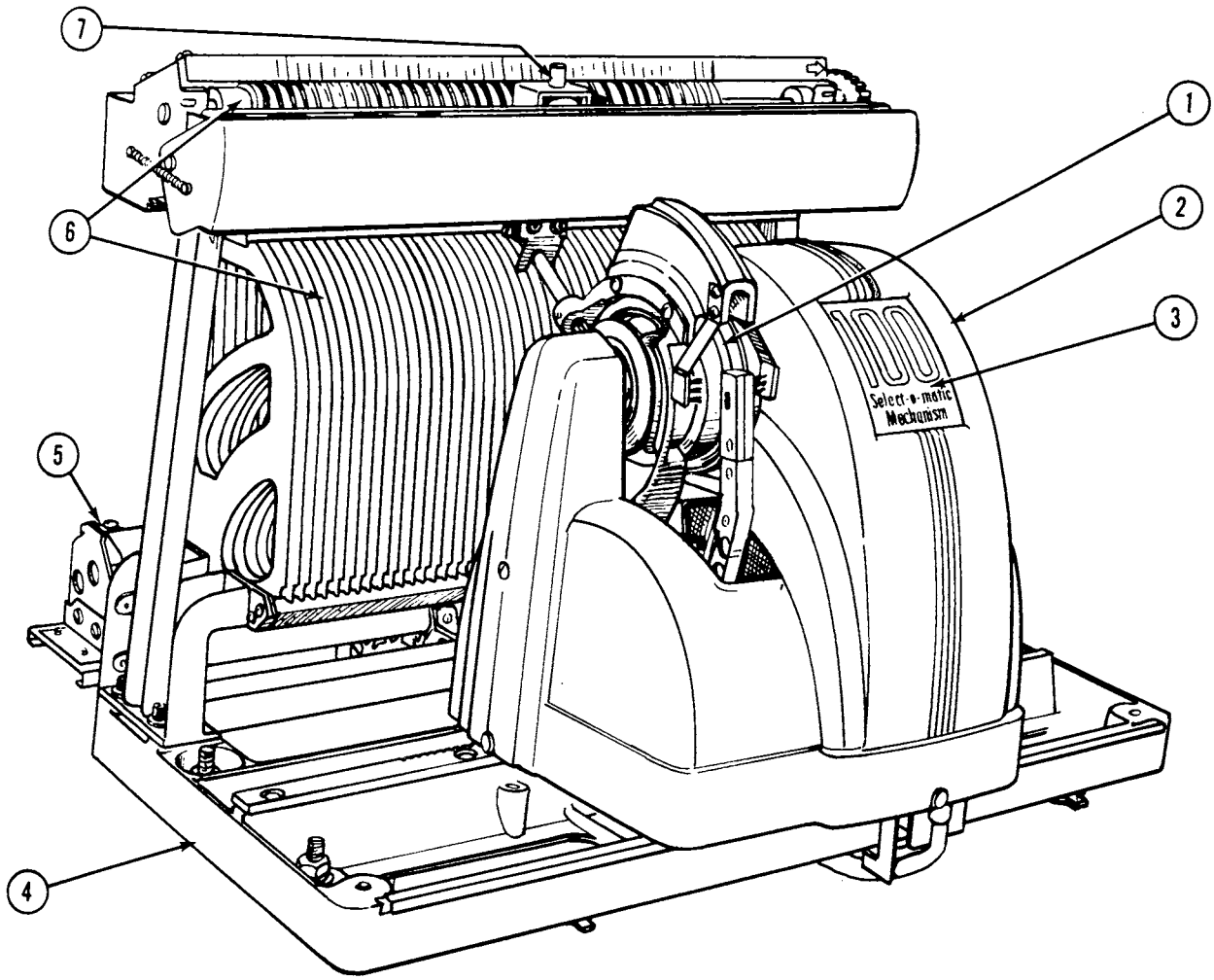
PARTS LIST

ITEM	PART NO.	PART NAME
C1a C1b	86172	1.4 mfd. 1.0 mfd. Motor Condenser
C2	86155	0.1 mfd. 600 v. Condenser
CA1	245915	Cable
CA2	245920	Cable Assembly
CA3	*245916*	Mute Cable
M1	A250251	Motor Assembly
P1	A250942	11-prong Plug
P2	K228440	Single-prong Plug
P3	A250938	3-prong Plug
PU	245789	Pickup Cartridge
	245795	Sapphire Stylus (card of 2)
PL1	7817	No. 81 Lamp
PL2	302141	No. 47 Lamp
PSC1	304370	Pin Cancel Solenoid
R1	82704	1500 ohm 1 watt Resistor

ITEM	PART NO.	PART NAME
RY1	245578 245549	Trip Solenoid*
RY2	245159	Popularity Meter Solenoid
S1	245250	Lamp Socket
S2	245142	Lamp Socket
S3	250707	Connector
SC1	304363	Selector Contact Block, complete
SW1	245911	Cam Switch
SW2	245912	Clutch Switch
SW3		Reset Lever Switch
SW4	245065	Clamp Arm Switch
SW5	245816	Record Trip Switch
SW6	245907	Reversing Switch
TS1	245909	Motor Terminal Strip
TS2	245910	5-lug Terminal Strip
TS3	245755	3-lug *Terminal Strip*

*see pages 2197 - 2198

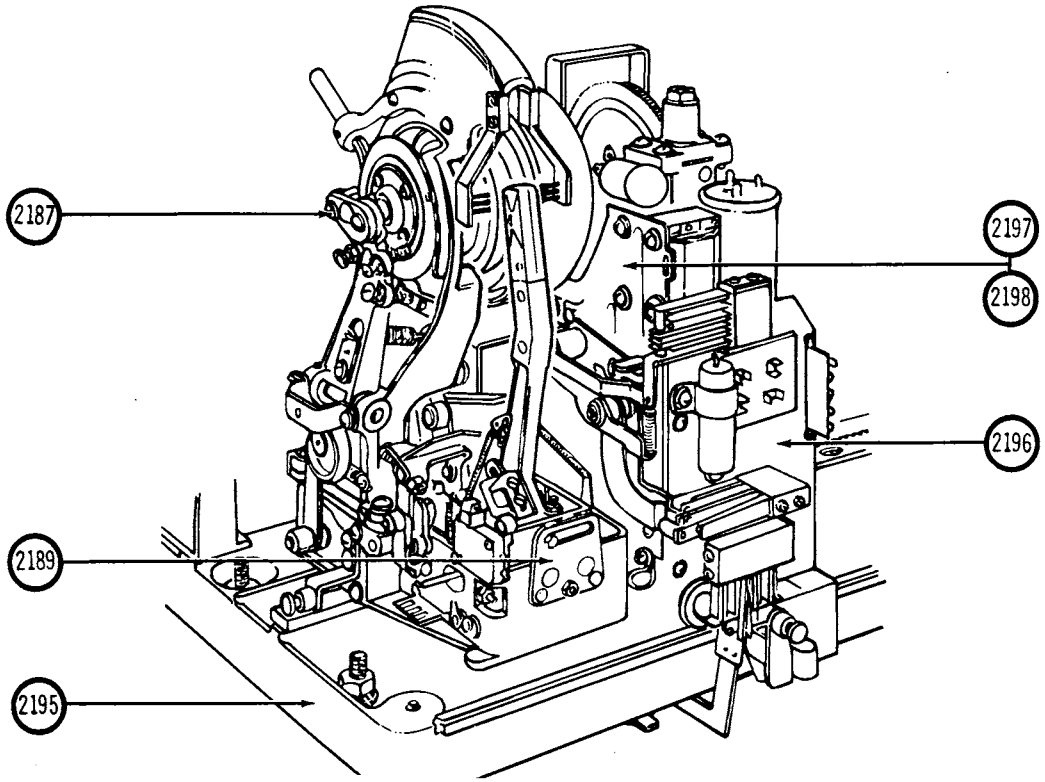
MECHANISM ASSEMBLY - PARTS INDEX & PARTS LIST

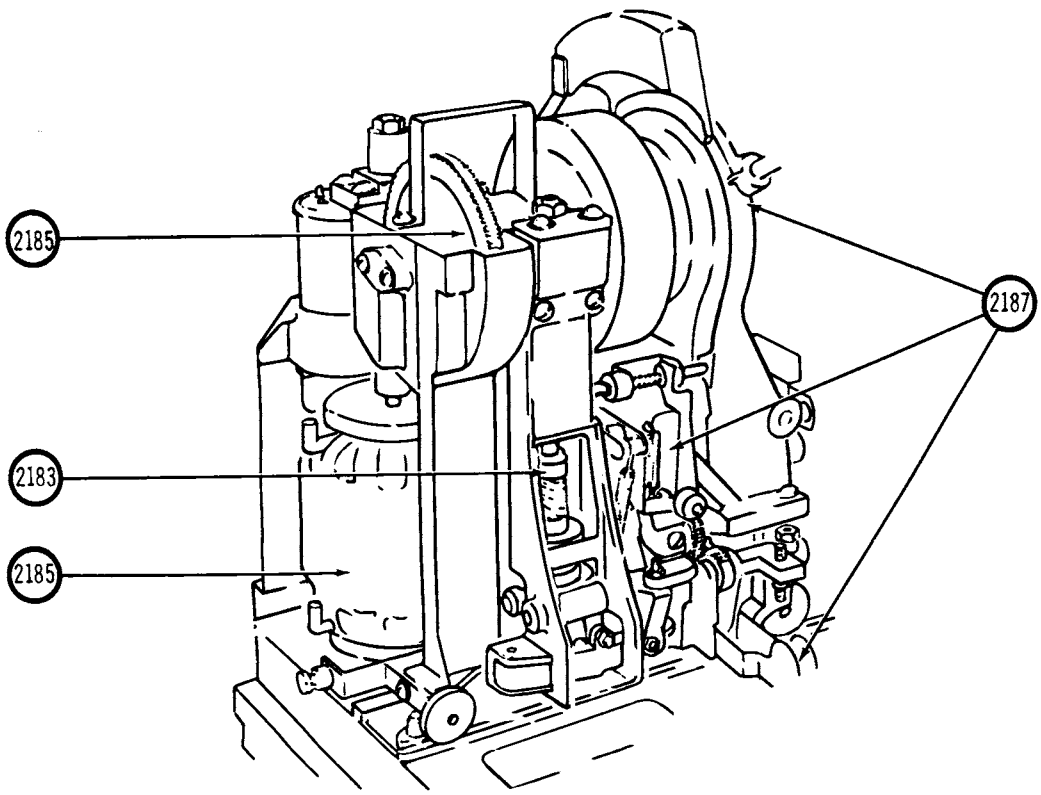


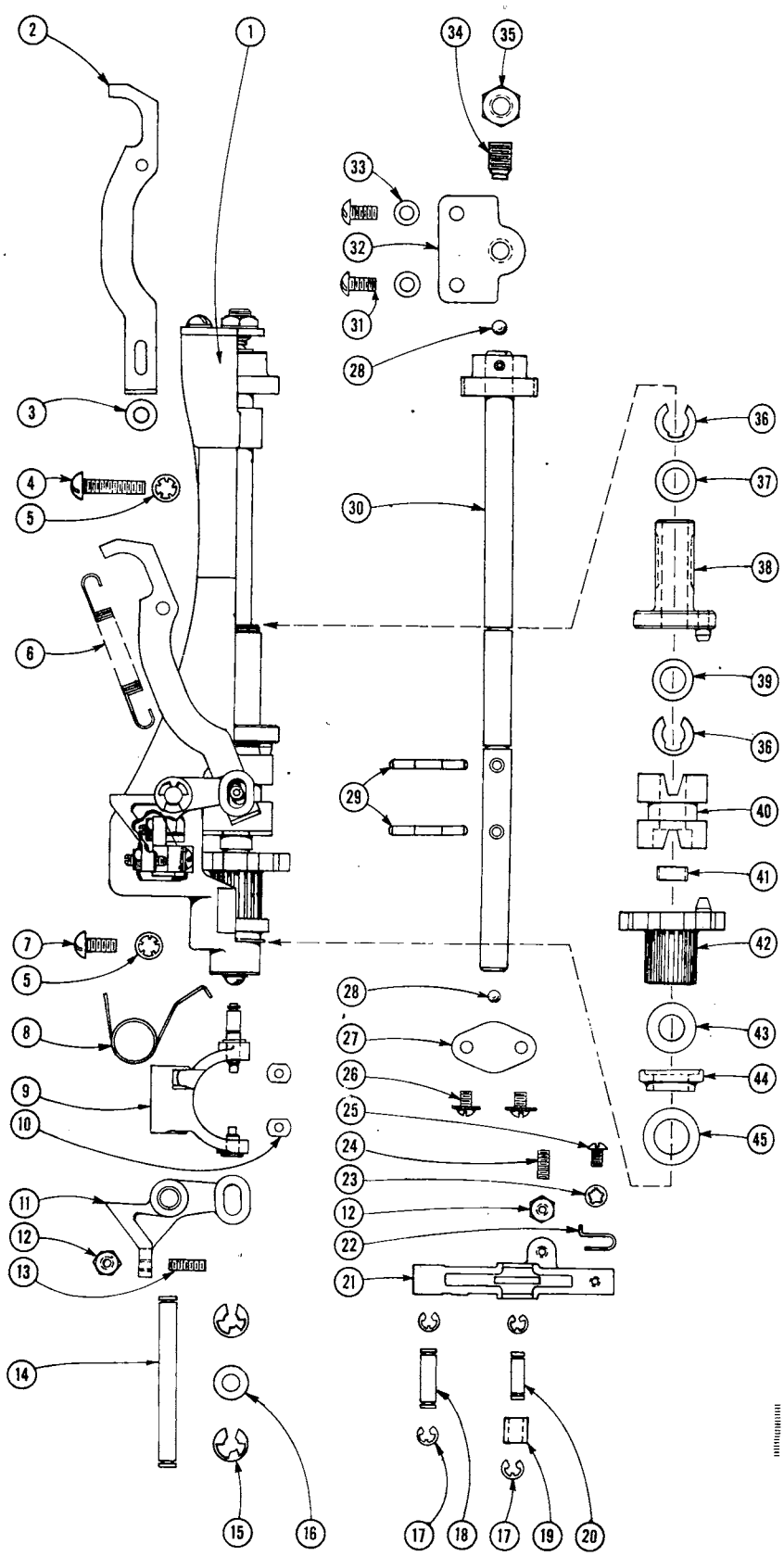
ITEM	PART NO.	PART NAME
1		Carriage Assembly, page 2182
2	245232	Cover
	71543	1/2" Cover Mounting Screw
	71127	5/16" Cover Mounting Screw
3	245231	Escutcheon Window
4		Base Assembly, page 2195
5	304320	Selector Assembly, Type 100SA3-L6, page 2199
6		Magazine and Popularity Meter, page 2191
7		Popularity Meter Slide, page 2193

CARRIAGE ASSEMBLY PARTS INDEX

Circled numerals indicate page numbers







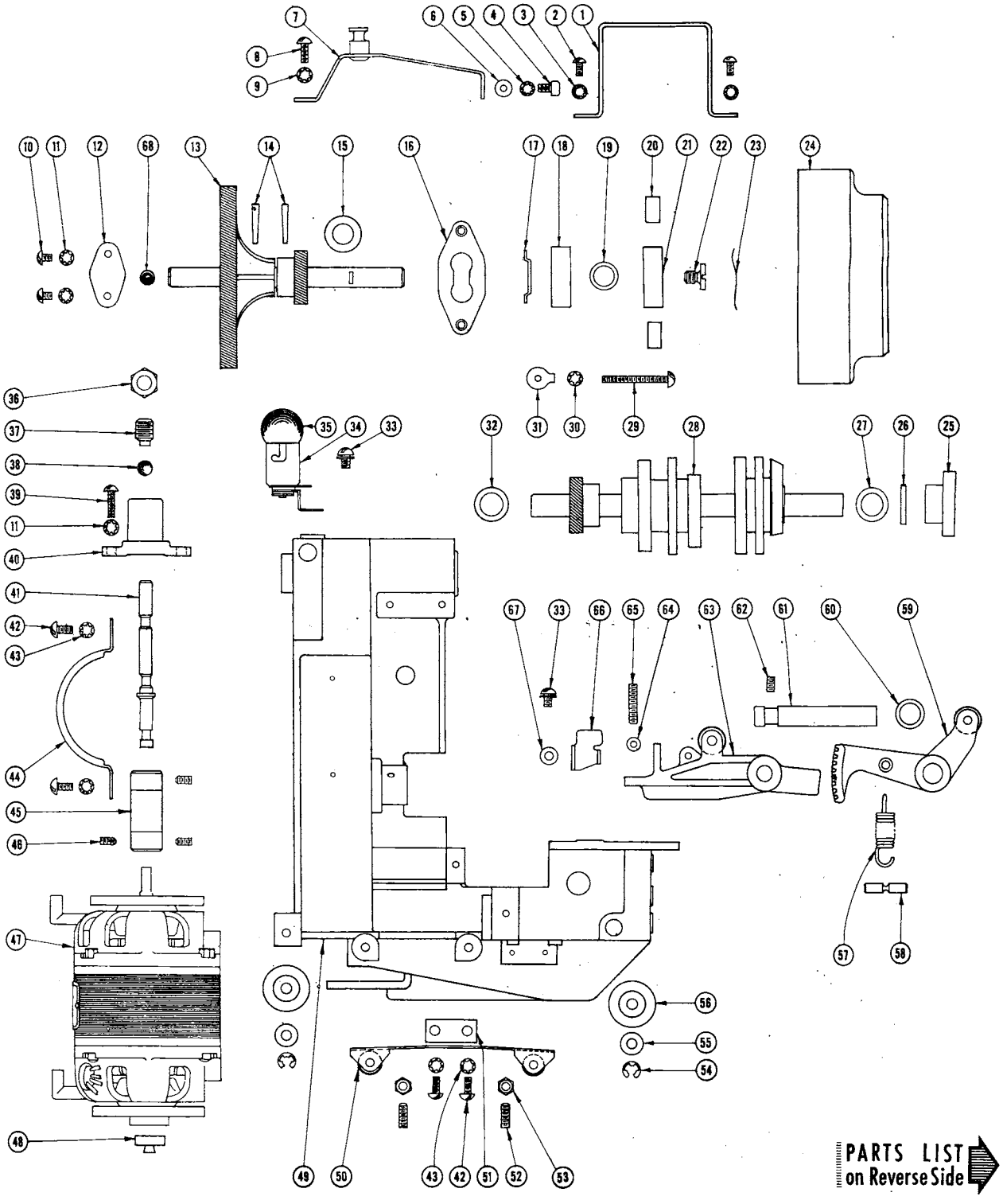
PARTS LIST on Reverse Side

CLUTCH ASSEMBLY

PARTS LIST for CLUTCH ASSEMBLY

(Preceding Page)

Item	Part No.	Description
1	245400	Complete Assembly
	245406	Clutch Housing Casting
2	245426	Connecting Link
3	72223	Flat Washer, Bronze
4	71488	10 x 7/8 R.H. Machine Screw
5	73138	Lock Washer
6	245248	Clutch Spring
7	71474	10 x 1/2 R.H. Machine Screw
8	A250141	Detent Arm Retarding Spring
9	245408	Clutch Yoke Assembly
10	A250529	Bearing Block
11	245427	Clutch Yoke Lever
12	70153	8-32 Hexagon Nut
13	75071	8-32 x 1/2 Set Screw
14	A250516	Clutch Yoke Shaft
15	S229220	Snap Washer
16	72174	Spring Steel Flat Washer
17	R231163	Snap Washer
18	A250520	Detent Arm Pivot Pin
19	A250518	Detent Arm Roller
20	A250519	Detent Arm Roller Pin
21	A250506	Clutch Detent Arm
22	A250508	Clutch Detent Arm Spring
23	73082	Lock Washer
24	75094	8-32 x 5/8 Set Screw
25	71041	8-32 x 3/16 R.H. Machine Screw
26	71757	8-32 x 1/4 Sems Fastener
27	245424	Thrust Plate
28	A250125	Steel Ball
29	A250523	Pin
30	245410	Shaft & Gear Assembly
	245411	Shaft, only
	245442	Gear, only
	80108	Pin
31	71061	10-32 x 1/2 R.H. Machine Screw
32	245425	Thrust Screw Plate
33	73119	Lock Washer
34	75070	Socket Head Set Screw
35	70105	5/16-24 Hexagon Nut
36	A250507	Snap Washer
37	72175	Spring Steel Flat Washer .031 Thick
	72216	Spring Steel Flat Washer .015 Thick
	72217	Spring Steel Flat Washer .010 Thick
38	245415	Clutch Worm
39	72175	Spring Steel Flat Washer .031 Thick
40	245417	Clutch Member
41	245418	Pinion Spacer
42	245438	Pinion Assembly
43	245421	Upper Thrust Washer
44	245422	Clutch Shaft Spacer
45	245423	Lower Thrust Washer



FRAME ASSEMBLY

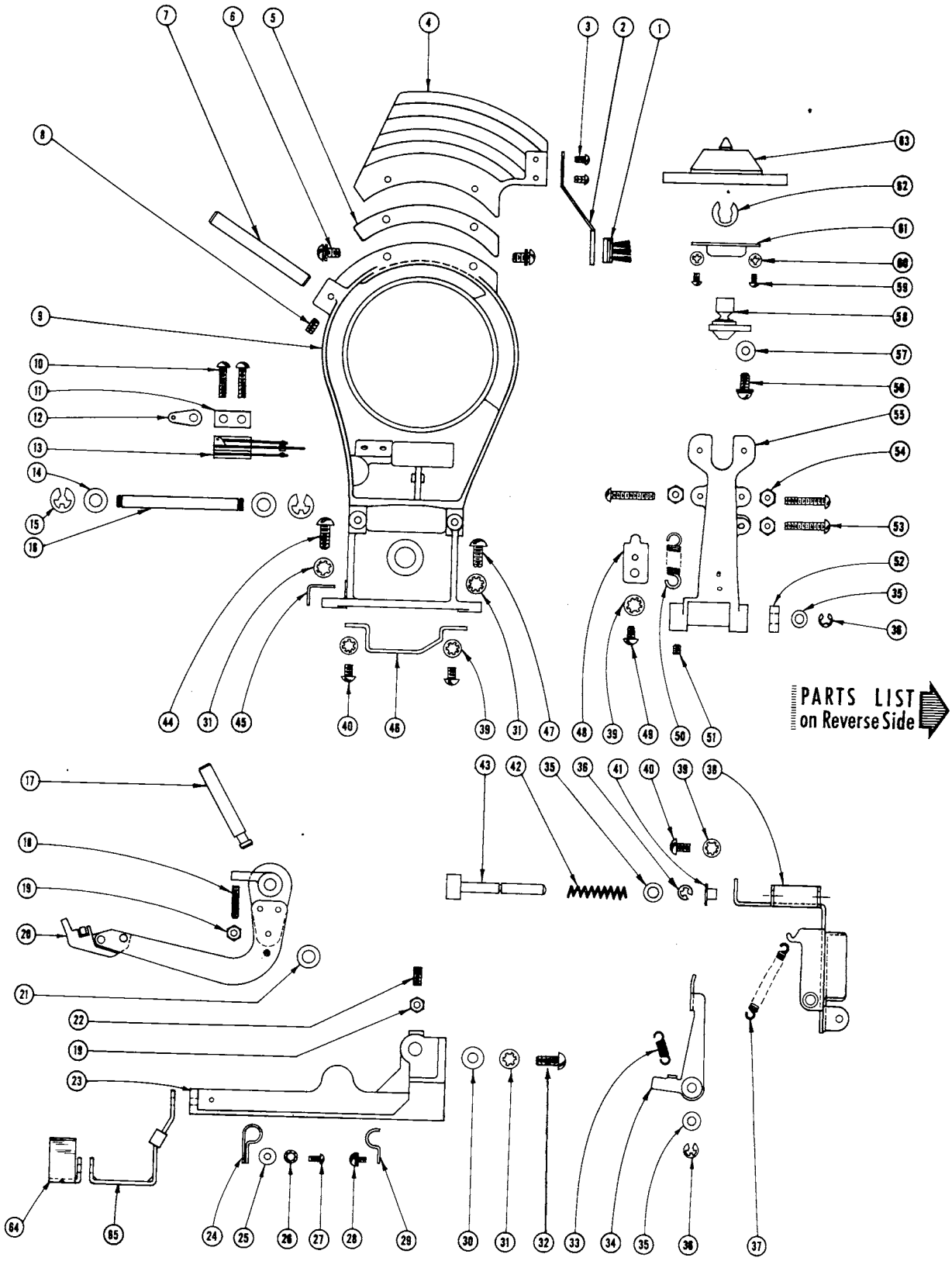
PARTS LIST for FRAME ASSEMBLY

(Preceding Page)

Item	Part No.	Description
1	245120	Carriage Cover Bracket
2	71962	8-32 x 5/16 R.H. Machine Screw
3	73137	Lock Washer
4	70546	8-32 x 1/2 Socket Head Cap Screw
5	73137	Lock Washer
6	72113	Flat Washer
7	245349	Guide Stud & Bracket
8	71948	8-32 x 3/8 R.H. Machine Screw
9	72113	Flat Washer
10	71041	8-32 x 3/16 R.H. Machine Screw
11	73137	Lock Washer
12	245424	Thrust Plate
13	245045	Turntable Shaft & Gear Assembly
14	80036	Taper Pin, 3/0 x 3/4
15	72277	Spring Steel Flat Washer .010 Thick
	72278	Spring Steel Flat Washer .015 Thick
	72287	Spring Steel Flat Washer .005 Thick
16	245467	Drive Arm Assembly
17	245055	Drive Arm Locating Washer
18	245056	Ball Bearing
19	245057	Ball Bearing Spacer
20	*Note	Turntable Drive Grommet
21	245056	Ball Bearing
22	245058	Bearing Retainer Screw
23	72288	Spring Washer, Bronze
24	245060	Turntable
25	245016	Brake Cam
26	80108	Roll Pin, 1/8 Dia. x 3/4
27	72227	Spring Steel Flat Washer .005 Thick
	72228	Spring Steel Flat Washer .010 Thick
	72229	Spring Steel Flat Washer .015 Thick
	72245	Spring Steel Flat Washer .020 Thick
28	245062	Cam & Gear Assembly
29	71169	6-32 x 1-1/4 R.H. Machine Screw
30	73088	Lock Washer
31	245061	Turntable Retainer
32	250064	Thrust Washer - Cam Shaft
33	71757	8-32 x 1/4 Sems Fastener
34	245250	Lamp Socket
35	F7817	#81 Mazda Lamp
36	70105	5/16-24 Hexagon Nut
37	75097	Set Screw
38	245180	Steel Ball
39	71961	8-32 x 1/2 R.H. Machine Screw
40	245026	Bearing Bracket Assembly
41	245044	Turntable Shaft Worm
42	71962	8-32 x 5/16 R.H. Machine Screw
43	73137	Lock Washer
44	250111	Clamp Bracket
45	245083	Motor Coupling Assembly
46	75009	8-32 x 3/16" Socket Head Set Screw
47	250251	Motor
48	245086	Motor Support Plug
49	245021	Carriage Frame Assembly, Includes Item 40
50	245031	Guide Roller & Spring Assembly
51	245299	Spacer, Guide Roller Spring
52	75064	8-32 x 1/2 Set Screw
53	70153	8-32 Hexagon Nut
54	R231163	Snap Washer
55	72177	Spring Steel Flat Washer .015 Thick
56	245082	Carriage Roller
57	245080	Gear Segment Spring
58	245081	Spring Pin
59	245041	Gear Segment Assembly
60	72216	Spring Steel Flat Washer .015 Thick
	72217	Spring Steel Flat Washer .010 Thick
	72254	Steel-Blue Flat Washer .005 Thick
61	245043	Shaft
62	75055	10-32 x 1/4 Allen Head Set Screw
63	245037	Detent Arm Lever Assembly
64	70003	10-32 Hexagon Nut
65	75103	10-32 x 3/4 Set Screw
66	245040	Adjustment Plate
67	72201	Flat Washer .031 Thick
68	250125	Steel Ball

Note: 245059 

245464 



CARRIAGE FRAME

PARTS LIST for CARRIAGE FRAME ASSEMBLY

(Preceding Page)

STRIPPER PLATE ASSEMBLY

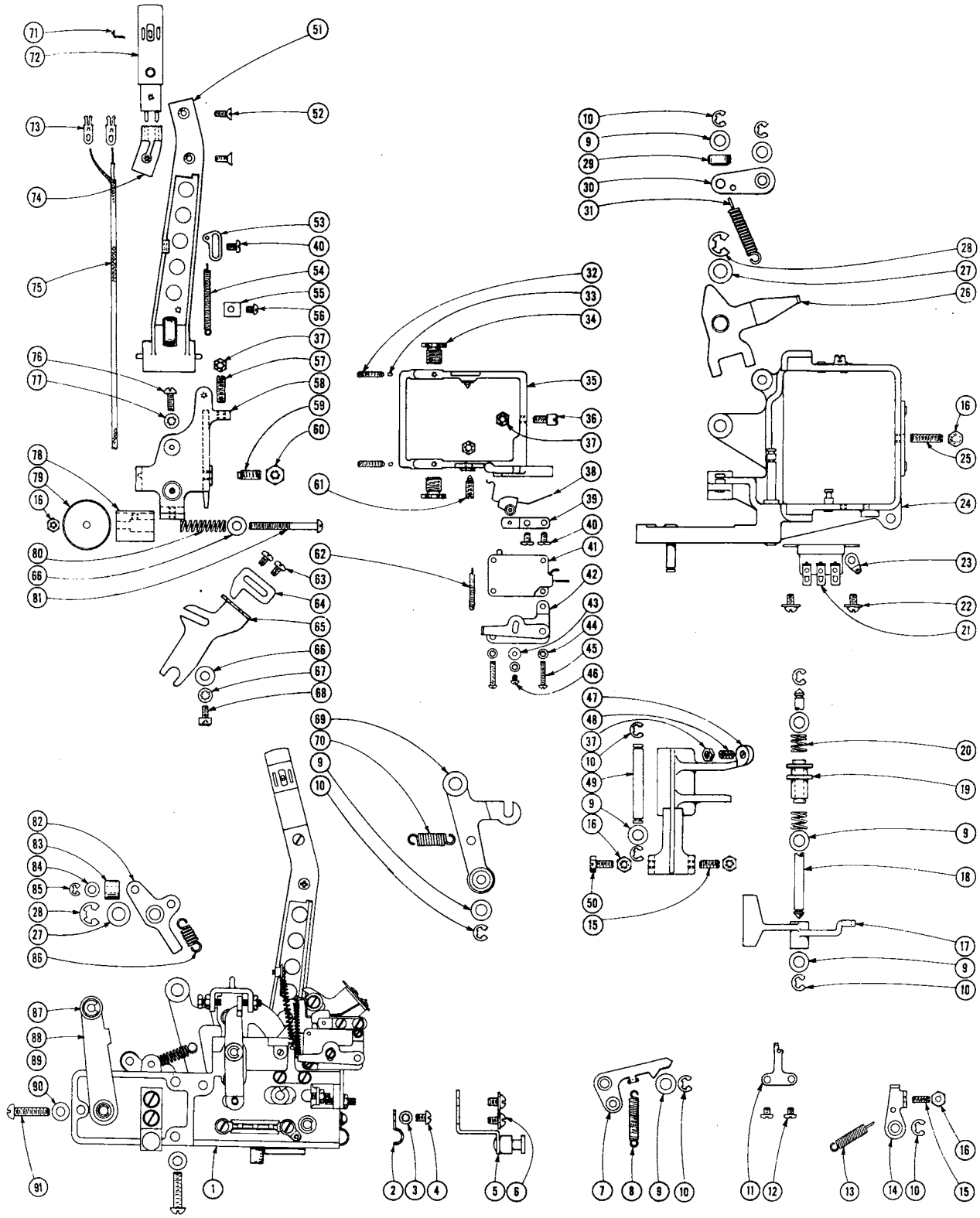
Item	Part No.	Description
1	251684	Brush
2	245295	Brush Holder
3	70541	#4 x 3/16 B.H. Machine Screw
4	245110	Stripper Plate Top
5	245135	Stripper Plate Top Shim
6	71810	Sem 8-32 x 5/16 #1208 Lock Washer
7	245183	Sel. Indicator Drive Tube
8	75093	8-32 x 1/4 Set Screw
9	245017	Stripper Plate
10	71233	5-40 x 5/8 Fil. H. Machine Screw
11	400597	Tension Plate
12	74006	Solder Lug
13	245065	Clamp Arm Switch
14	72280	Flat Washer
15	S229220	Retaining Ring
16	245354	Shaft
44	71061	10-32 x 1/2 R.H. Machine Screw
45	245134	Transfer Arm Stop
46	245121	Carriage Cover Bracket
47	71474	10-32 x 7-16 R.H. Machine Screw
48	245070	Clamp Arm Spring Plate
49	76054	8-32 x 1/4 R.H. Thread Cutting Screw
50	245079	Clamp Arm Spring
51	75009	8-32 x 3/16 Set Screw
52	245038	Roller
53	70500	8-32 x 7/8 R.H. Machine Screw
54	70153	8-32 Hexagon Nut
55	245067	Clamp Arm & Pin Assembly
56	71755	Sems 8-32 x 3/8 R.H. Machine Screw
57	72240	Flat Washer
58	245075	Pivot Pin & Block Assembly
59	71271	4-40 x 3/16 R.H. Machine Screw
60	73136	1204 Lock Washer
61	250235	Clamp Disc. Cover
62	250507	Snap Washer
63	245071	Record Clamp Disc. & Pivot Assembly

CONTACT AND TRANSFER ARM ASSEMBLIES

Item	Part No.	Description
17	245109	Transfer Arm Shaft
18	245557	Adjustment Screw
19	70008	8-32 Hexagon Nut
20	245239	Transfer Arm
21	72282	.031" Thick Steel Washer
	72281	.020" Thick Steel Washer
	72174	.015" Thick Steel Washer
	72280	.010" Thick Steel Washer
22	75052	8-32 x 7/16 Set Screw
23	245108	Contact Arm
24	602190	Clamp
25	72230	Flat Washer
26	73088	Lock Washer
27	71479	6-32 x 1/4 R. H. Machine Screw
28	71750	Sems 6-32 x 3/16 R.H. Machine Screw
29	402098	Cable Clamp
30	72135	Flat Washer
31	73138	1210 Lock Washer
32	71090	10-32 x 7/16 R.H. Mach. Screw
64	245230	Drive Bracket
65	245136	Drive Bracket Support

SAFETY TRIP ASSEMBLY

Item	Part No.	Description
33	245103	Safety Trip Lever Spring
34	245094	Lever & Hub Assembly
35	72177	Flat Washer Spring Steel
36	R231163	Snap Washer
37	245102	Detent Arm Spring
38	245088	Safety Trip Bracket Assembly
39	73137	1208 Lock Washer
40	71963	8-32 x 1/4 R.H. Machine Screw
41	245101	Eyelet
42	245100	Plunger Spring
43	245098	Plunger



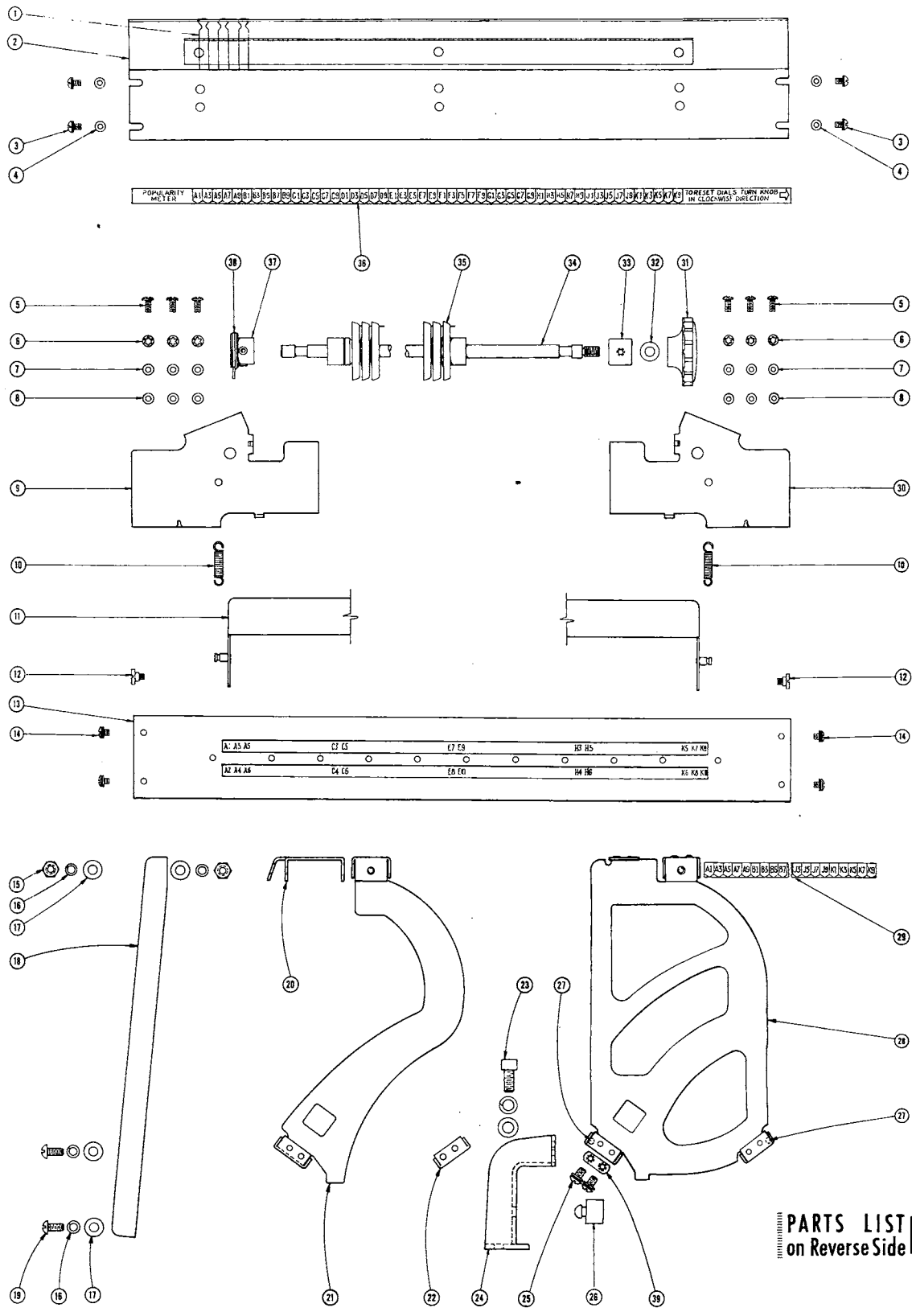
PICKUP ARM FRAME ASSEMBLY

PARTS LIST on Reverse Side

PARTS LIST FOR PICKUP ARM FRAME ASSEMBLY

(PRECEDING PAGE)

Item	Part No.	Description
1	245700	Pickup Arm & Frame Assembly
2	402098	Cable Clamp
3	73083	Lock Washer
4	71004	6-32 x 1/4 R.H. Mach. Screw
5	245127	Guide Stud
6	71757	8-32 x 1/4 Sems Fastener
7	245765	Pickup Arm Lock Lever
8	245792	Lock Lever Spring
9	72177	Flat Washer
10	R231163	Retaining Ring
11	245756	Pickup Arm Spring Lug
12	70509	5-40 x 1/8 B.H. Mach. Screw
13	245773	Lock Lever Detent Spring
14	245800	Lock Lever Detent
15	75091	6-32 x 3/8 Slotted Head Set Screw
16	70152	6-32 Hexagon Nut
17	245711	Lock Lever Control Crank
18	245728	Control Fork Hinge Pin
19	245729	Shifting Collar
20	245791	Spring
21	245755	3 Lug Terminal Strip
22	71754	6-32 x 1/4 Sems Fastener
23	74007	Solder Lug
24	245753	Pickup Arm Frame Assembly
25	75095	6-32 x 5/8 Set Screw
26	245758	Cradle Actuator Lever
27	72174	Flat Washer
28	S229220	Retaining Ring
29	245740	Detent Roller
30	245762	Detent Lever
31	245764	Detent Lever Spring
32	75088	5-40 x 3/8 Socket Head Set Screw
33	245772	Lock Plug
34	245737	Adjusting Bushing
35	245771	Cradle & Pin Assembly
36	245726	Support Pin
37	70008	8-32 Hexagon Nut
38	245714	Trip Switch Lever
39	245724	Support Lug
40	71917	4-40 x 3/16 B.H. Mach. Screw
41	245816	Trip Switch
42	245818	Adjusting Lever & Plate
43	72005	Flat Washer
44	73141	Lock Washer
45	71040	2-56 x 1/2 R.H. Mach. Screw
46	70549	2-56 x 1/8 R.H. Mach. Screw
47	245709	Control Fork
48	75092	8-32 x 3/4 Slotted Head Set Screw
49	245732	Cradle Pressure Pin
50	70504	Slotted Hexagon Head Mach. Screw
51	245786	Pickup Arm & Roller Assem.
52	70502	4-36 x 5/16 Phil. Flat Head Mach. Screw
53	245715	Pickup Arm Spring Clip
54	245793	Pickup Arm Spring
55	245823	Wire Retainer
56	71272	4-40 x 1/8 R.H. Mach. Screw
57	75064	8-32 x 1/2 Slotted Head Set Screw
58	245779	Pickup Arm Cradle & Pin Assem.
59	245805	P.U. Arm Shaft Set Screw
60	70003	10-32 Hexagon Nut
61	245777	Pivot Screw
62	245817	Trip Switch Balance Spring
63	71996	4-40 x 1/8 B.H. Mach. Screw
64	245783	Trip Switch Actuator Plate
65	245723	Trip Switch Actuator
66	72064	Flat Washer
67	73088	Lock Washer
68	70547	6-32 x 1/4 Socket Head Cap Screw
69	245766	Control Lever & Roller
70	245769	Control Lever Spring
71	245795	Styli, Sapphire
72	245789	Pickup Cartridge Assembly
73	74108	Solder Lugs
74	245713	Pickup Cartridge Socket
75	245788	Pickup Lead
76	71016	6-32 x 3/8 R.H. Mach. Screw
77	73088	Lock Washer
78	245819	Pickup Arm Weight
79	245820	Pickup Arm Counterweight
80	245821	Lock Spring
81	71631	6-32 x 1-3/8 R.H. Mach. Screw
82	245760	Drive Crank
83	245745	Drive Crank Roller
84	72272	Flat Washer
85	125448	Retaining Ring
86	245782	Drive Crank Spring
87	245157	Brake Cam Roller
88	245242	Brake Cam Lever
89	245243	Brake Lever Spring
90	73138	Lock Washer
91	71047	10-32 x 3/4 R.H. Mach. Screw



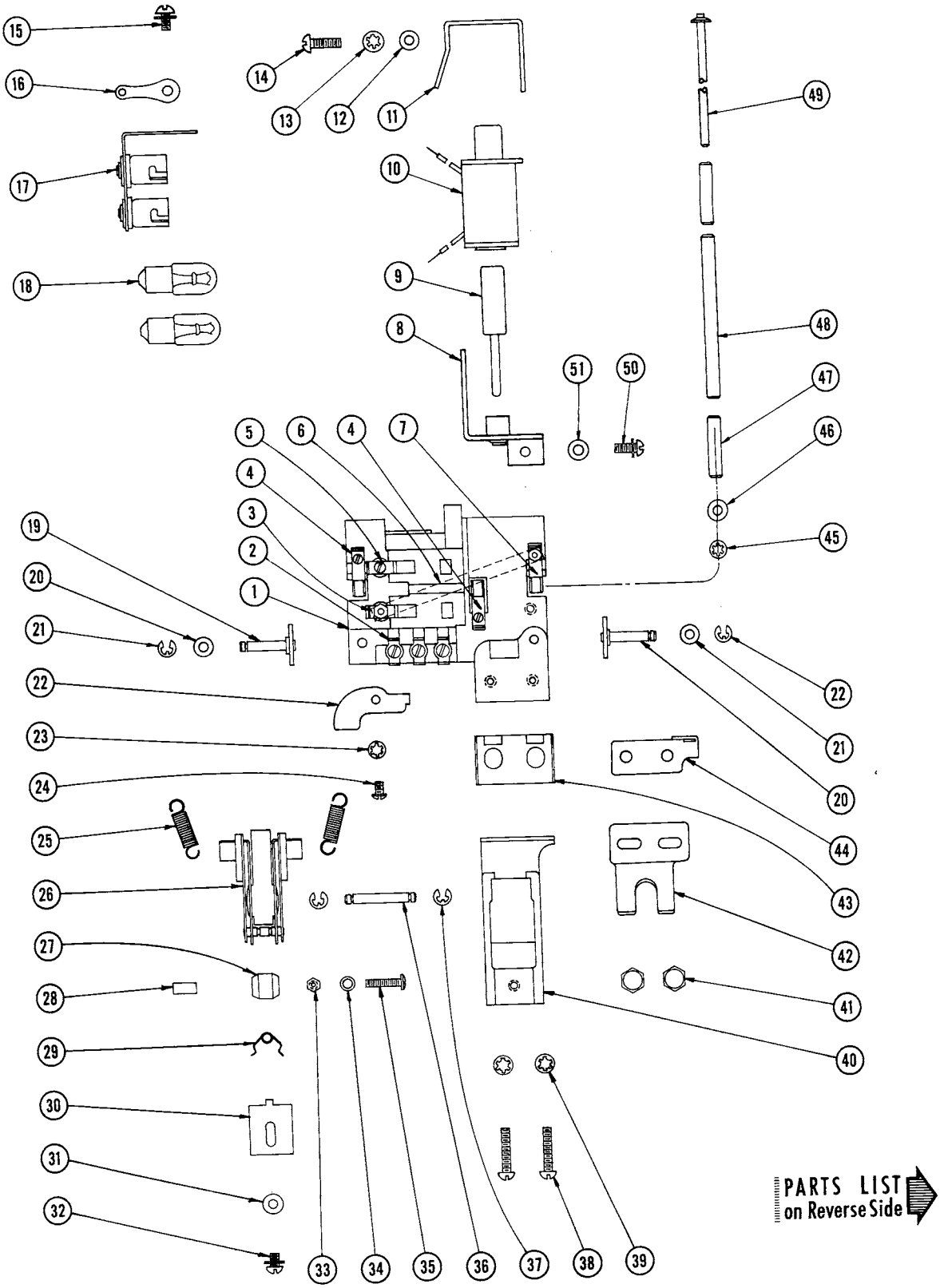
POPULARITY METER & MAGAZINE ASSEMBLY

PARTS LIST for

POPULARITY METER & MAGAZINE ASSEMBLY

(Preceding Page)

Item	Part No.	Description
1	245185	Dial Stop Spring
2	245141	Tie Plate & Angle Assembly
3	71754	Sems Fastener
4	72230	Flat Washer
5	71257	6-32 x 5/16 B.H. Machine Screw
6	73088	1206 Lock Washer
7	72230	Flat Washer
8	245182	Spacer
9	245188	Indicator Bracket & Stud Assembly, R.H.
10	245229	Popularity Meter Cover Spring
11	245227	Cover & Stud Assembly
12	245228	Meter Cover Pivot
13	245213	Selector Indicator Channel Assembly
14	71809	Sems Fastener
15	70163	10-32 Hexagon Nut
16	73119	#10 Kantlink Lock Washer
17	72019	Flat Washer
18	245314	Brace
19	71741	10-32 x 3/8 R.H. Machine Screw
20	245446	Dust Shield Bracket, R.H.
	245447	Dust Shield Bracket, L.H.
21	245451	Separator & Channel Assembly
22	245398	Magazine Channel Assembly
23	71596	1/4-20 x 9/16 Socket Hd. Cap Screw
	73087	1/4 Kantlink Lock Washer
	72171	Flat Washer
24	245332	Magazine Support Bracket, R.H.
	245333	Magazine Support Bracket, L.H.
25	71796	Sems Fastener
26	245291	Rubber Bumper
27	245334	Record Cushion
28	245306	Separator & Channel Assembly
29	245345	Number Strip
30	245189	Indicator Bracket & Stud Assembly, L.H.
31	245224	Knob
32	72171	Flat Washer
33	245222	Thrust Collar
34	245214	Popularity Meter Dial & Shaft Assembly
35	245119	Popularity Dial
36	245226	Number Strip
37	245220	Clutch Collar
38	245221	Clutch Spring
39	245313	Tapping Plate



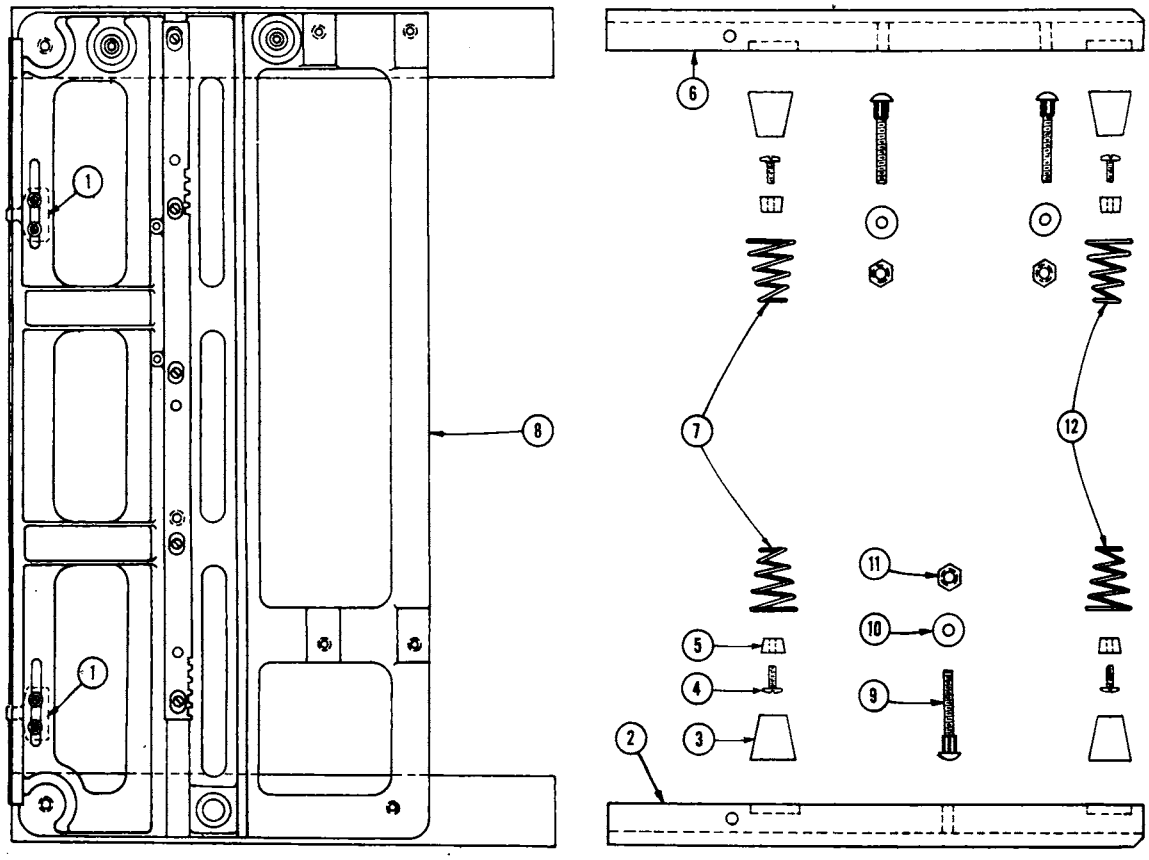
PARTS LIST on Reverse Side

POPULARITY METER SLIDE ASSEMBLY

PARTS LIST FOR SLIDE ASSEMBLY

(PRECEDING PAGE)

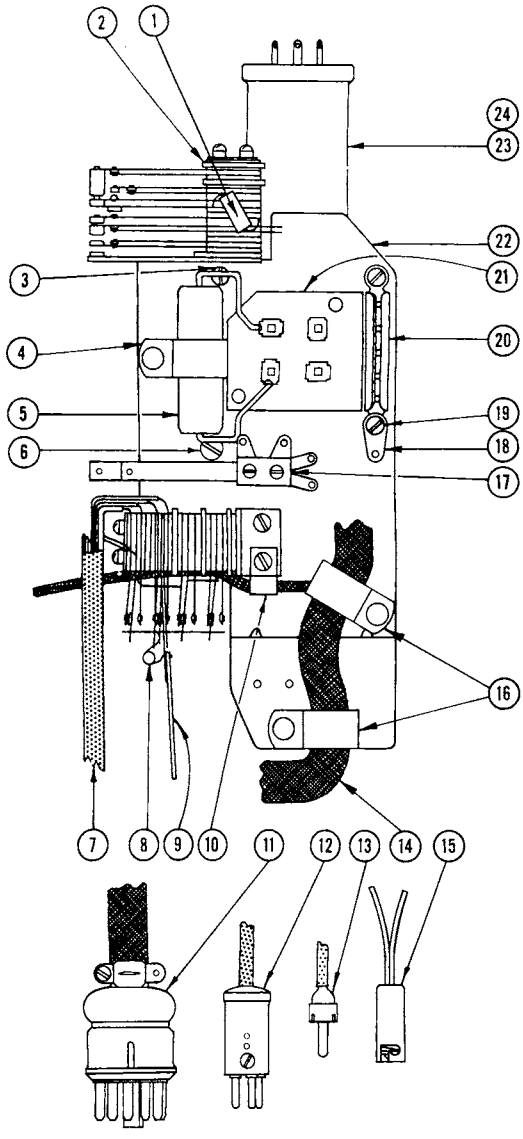
Item	Part No.	Description
1	245128	Selection Indicator Slide
2	74104	Solder Lug
	76055	#4 x 1/4 R.H. Self Tapping Screw
3	245156	Lamp Socket Contact Spring
	71040	2-56 x 1/2 R.H. Mach. Screw
	73141	1202 Lock Washer
	70011	2-56 Hexagon Nut
4	245143	Indicator Slide Contact Spring
	76003	2-56 x 3/16 R.H. Self Tap Screw
5	245156	Lamp Socket Contact Spring
	76003	2-56 x 3/16 R.H. Self Tap Screw
6	245155	Conductor Strip
7	245143	Indicator Slide Contact Spring
	71040	2-56 x 1/2 R.H. Mach. Screw
	73141	1202 Lock Washer
	70011	2-56 Hexagon Nut
8	245198	Solenoid Bracket & Stop Assembly
9	245200	Plunger Assembly
10	245159	Solenoid
11	245151	Solenoid Bracket, Upper
12	72230	Flat Washer
13	73088	1206 Lock Washer
14	71103	6-32 x 7/16 R.H. Mach. Screw
15	71754	Sems Fastener
16	74003	Solder Lug
17	245142	Dual Lamp Socket Assembly
18	302141	#47 Mazda Lamp
19	245191	Roller & Shaft Assembly
20	72272	Flat Washer
21	125448	Retaining Ring
22	245346	Right End Guide
23	73136	1204 Lock Washer
24	70541	#4-40 x 3/16 B.H. Mach. Screw
25	245212	Rocker Arm Spring
26	245204	Rocker Arm Assembly
27	245209	Drive Shoe
28	245210	Drive Shoe Spacer
29	245154	Toggle Spring
30	245146	Spring Fulcrum Plate
31	72230	Flat Washer
32	71750	Sems Fastener
33	70119	4-40 Hexagon Nut
34	73026	#4 Kantlink Lock Washer
35	70505	#4-40 x 1/2 B.H. Mach. Screw
36	245211	Rocker Arm Shaft
37	125448	Retaining Ring
38	71262	#6-32 x 5/8 R.H. Mach. Screw
39	73088	1206 Lock Washer
40	245153	Rocker Arm Bracket
41	70019	#6-32 Hexagon Cap Nut
42	245145	Drive Bracket
43	245350	Adjuster Wedge
44	245347	Left End Guide
45	404675	Retaining Ring
46	72001	Flat Washer
47	245196	Selection Indicator Insulator
48	245195	Selection Indicator Contact Sleeve
49	245194	Indicator Slide Pin Assem.
50	71796	Sems Fastener
51	72230	Flat Washer



BASE ASSEMBLY

PARTS LIST

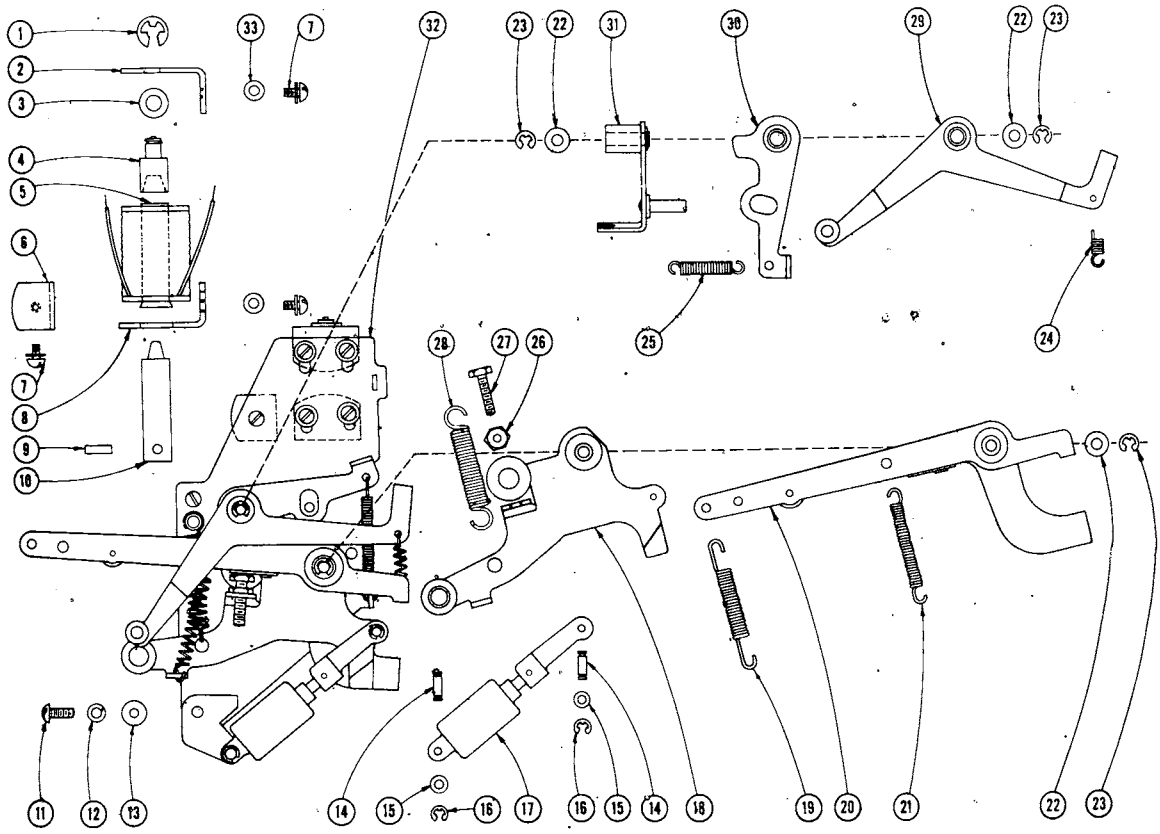
Item	Part No.	Description
1	245115	Rev. Switch Stop
2	245234	Chassis Mtg. Cleat Assem. R.H.
3	245268	Chassis Mtg. Spring Plug
4	71637	8-32 x 9/16 B.H. Mach. Screw
5	245117	Spring Retainer
6	245235	Chassis Mtg. Cleat Assem. L.H.
7	245116	Chassis Mtg. Spring
8	245269	Base
9	245184	Shipping Bolt
10	72034	Flat Washer 7/8 x 3/8 x 5/64
11	70126	5/16-18 Hex. Nut, 9/16 A.F.
12	245267	Chassis Mtg. Spring, Rear



SWITCH PLATE ASSEMBLY

PARTS LIST

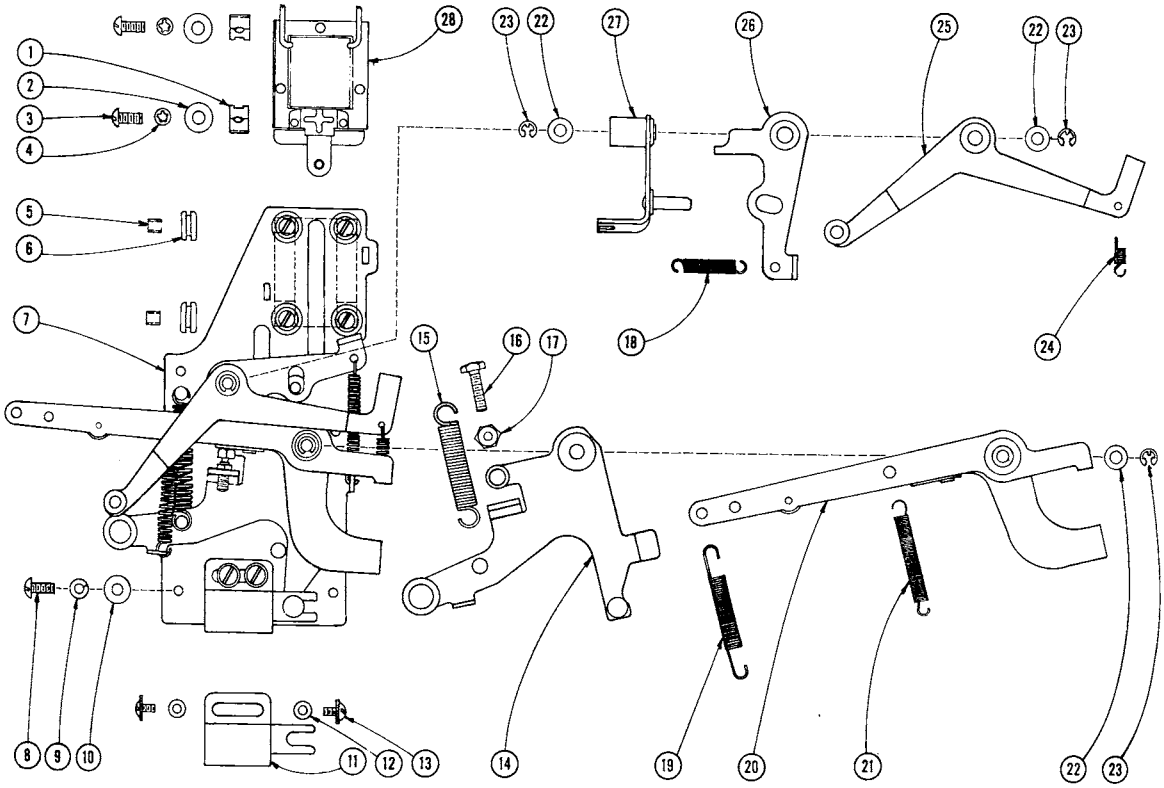
Item	Part No.	Description
1	82704	1500 ohm 10% 1 w. Resistor
2	245911	Cam Switch
	245944	Switch Stop Plate &Lifter Assem.
	400597	Tension Plate
	71902	5-40 x 1-1/2 Fil. H. Mach. Screw, Steel-Cad
3	71479	6-32 x 1/4 R.H. Machine Screw
	73088	#1206 Lock Washer
4	600158	Plastic Clamp
5	86155	.1 mfd. 600 v. Tub. Condenser
6		Switch Plate Mounting Hardware
	71248	8-32 x 1/4 Allen Soc. Hd. Cap Screw
	70546	8-32 x 1/2 Allen Socket Head Cap Screw
	73137	#1208 Lock Washer
	72113	Flat Washer 3/8 O.D. x 11/64 I.D. x 1/32 Thk.
7	245915	Internal Cable
8	245948	Spring
9	245907	Reversing Switch Assembly, Complete
	245908	Reversing Switch Bracket
	71750	6-32 x 3/16 Sems Fastener
	245946	Actuator Assembly
	245947	Tie Plate
10	F402098	Cable Clamp
	71754	6-32 x 1/4 Sems Fastener
11	250942	11-prong Plug Assembly
12	250938	3-prong Plug Assembly
13	K228440	Single Prong Plug
14	245920	Cable Assembly, complete with Plugs
	245921	Control Cable, cable only
15	250707	Connector
16	602377	Plastic Clamp
17	245912	Clutch & Reset Lever Sw.
	71733	5-40 x 1-3/8 Fil. H. Mach. Screw
	400597	Tension Plate
18	74023	Solder Lug
19	71501	6-32 x 3/16 R.H. Mach. Screw
20	245910	Terminal Strip
21	245909	Terminal Board
22	245906	Switch Plate
	245918	Riveted Assembly consisting of items 21 & 22
23	86172	Motor Condenser
24	245917	Condenser Strap



No. 245502 TRIP MECHANISM ASSEMBLY

PARTS LIST

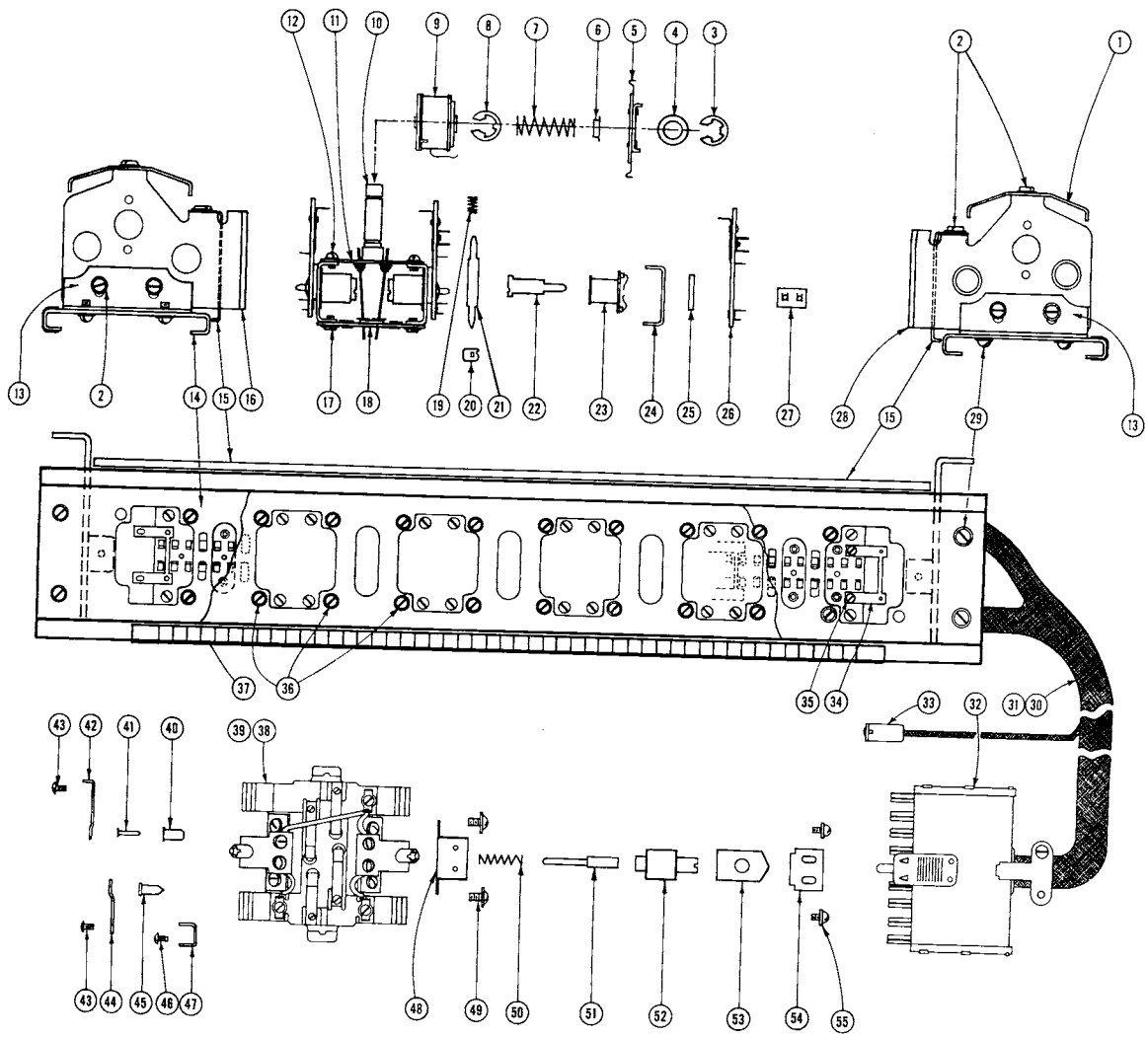
Item	Part No.	Description
1	S229220	Retaining Ring
2	245575	Solenoid Bracket - Top
3	400602	Rubber Washer
4	245576	Plug Assembly
5	245578	Solenoid
6	245582	Trip Plate Support Bracket
7	71794	8-32 x 1/4 Sems Fastener
8	245579	Solenoid Bracket - Bottom
9	80116	5/32 x 7/16 Roll Pin
10	245581	Plunger
11	71014	8-32 x 3/8 R.H. Machine Screw
12	73108	#8 Lock Washer
13	72279	Flat Washer
14	245523	Dash Pot Pivot Pin
15	72272	Flat Washer
16	125448	Retaining Ring
17	245595	Dash Pot Assembly
18	245588	Reset Lever & Roller Assembly
19	245248	Clutch Spring
20	245525	Clutch Shifting Lever Assem.
21	245551	Clutch Shifting Lever Spring
22	72177	Flat Washer
23	R231163	Snap Washer
24	A250091	Switch Lever Spring
25	245552	Latch Lever Spring
26	70153	8-32 Hexagon Nut
27	245557	Adjustment Screw
28	245550	Reset Lever Spring
29	245539	Switch Lever Assembly
30	245593	Latch Lever Assembly
31	245545	Trip Lever Assembly
32	245583	Mounting Plate
33	72297	Flat Washer



No. 245500 TRIP MECHANISM ASSEMBLY

PARTS LIST

Item	Part No.	Description
1	245568	Tinnerman Nut
2	72064	Flat Washer
3	71015	6-32 X 7/16 R.H. Machine Screw
4	73088	#1206 Lock Washer
5	400854	Spacer
6	78031	Rubber Grommet
7	245521	Mounting Plate Staked Assembly
8	71014	8-32 X 3/8 R.H. Machine Screw
9	73108	#8 Kantlink Lock Washer
10	72279	Flat Washer
11	245560	Reset Lever Stop Assembly
12	72113	Flat Washer
13	71757	Sems Fastener
14	245511	Reset Lever & Roller Assembly
15	245550	Reset Lever Spring
16	245557	Adjustment Screw
17	70153	8-32 Hexagon Nut
18	245552	Latch Lever Spring
19	245248	Clutch Spring
20	245525	Clutch Shifting Lever Assembly
21	245551	Clutch Shifting Lever Spring
22	72177	Flat Washer Spring
23	R231163	Snap Washer
24	250091	Spring, Switch Lever
25	245539	Switch Lever Assembly
26	245536	Latch Lever Assembly
27	245545	Trip Lever Assembly
28	245549	Trip Solenoid



TYPE 100SA3 SELECTOR COIL & ARMATURE ASSEMBLY

PARTS LIST on Reverse Side

PARTS LIST for SELECTOR COIL & ARMATURE ASSEMBLY

(Preceding Page)

Item	Part No.	Description
1	304357	Cover Plate
2	71760	Sems Fastener
3	304390	Retaining Ring, Bronze
4	304405	Paper Washer
5	304352	Group Magnet Arm. Assembly
6	79539	Eyelet
7	304351	Compression Spring
8	304391	Retaining Ring
9	304346	Group Magnet Assembly
10	304327	Selector Coil & Arm. Assembly
11	304336	Armature Hinge Plate Assembly
12	71793	Sems Fastener
13	304358	Rail End Bracket
14	304326	Selector Block Guide Rail
15	304394	Shield Panel
16	304362	Selector Support Bracket, L
17	72035	Flat Washer
	71917	4-40 x 3/16 B.H. Machine Screw
	73026	#4 Kantlink Lock Washer
18	304342	Armature Guide Plate Assembly
19	304339	Armature Spring
20	304341	Contact Washer
21	304340	Armature
22	304335	Core
23	304333	Selector Coil
24	304332	Selector Channel
25	304331	Terminal Board Spacer
26	304329	Coil Terminal Board Assembly
27	70160	Twin Hole Speed Nut
28	304355	Right End Bracket Assembly
29	71750	Sems Fastener
30	304398	Cable & Plug Assembly (Items 32,31,&33)
31	304399	Cable
32	F9461	27-prong Plug
33	250706	Connector
34	304377	Terminal Lug
35	70548	2-56 x 1/4 B.H. Machine Screw
	73095	Lock Washer
36	71807	Sems Fastener
37	304397	Selector Lever Number Strip
38	304363	Contact Block Assembly, complete
39	304364	Contact Block
40) 41	304411	Selection Contact Assembly
42	251268	Contact Spring
43	76003	2-56 x 3/16 R.H. S.T. Screw
44	304369	Dressing Spring
45	304365	Dressing Contact
46	76055	4 x 1/4 R.H.S.T. Screw
47	74104	Solder Lug
48	304371	Cancel Coil Mtg. Bracket
49	71754	Sems Fastener
50	304248	Plunger Return Spring (use with #304373)
	304413	Plunger Return Spring (use with #304415)
51	304373	Pin & Plunger Assembly
	304415	Spring & Plunger Assembly
52	304370	Cancel Coil Assembly
53	304396	Pointer
54	304372	Cancel Coil End Bracket
55	71793	Sems Fastener
	72000	Flat Washer