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COIN EQUIPMENT

SERIES 2800 PHONOGRAPH

Reference to "Right Hand" and "Left Hand" are made when viewing the phonograph from the front, unless otherwise specified.

The Coin Equipment used on all Wurlitzer phonographs of the 2800 series consists of the National Coin Separator (Fig. 1, Item 10), The National Nickel, Dime, Quarter and Half Dollar Slug Rejector (Fig. 1, Item 8) and the Wurlitzer Coin Register Mechanism (Playrak) (Fig. 1, Item 6).

The figures following show the method for removal of these units.

CAUTION!

Turn the line switch OFF before removing the Playrak!

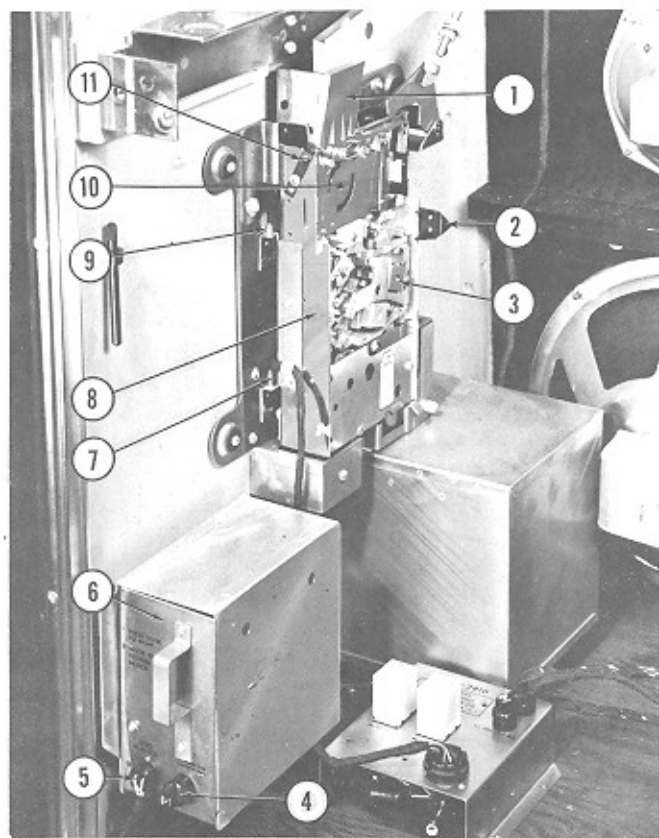


FIG. 1. COIN EQUIPMENT

1. Lower Coin Chute Assy.	68552
2. Spring & Catch Assy.	120959
3. Slug Rejector, 5, 10, 25,	National
4. Fuse Post	121809
5. Wire & Plug Assy.	123664
6. Coin Register Mechanism	123382
7. Pivot, Mounting Plate & Spring Catch Assy.	122562
8. Slug Rejector	National
9. Pivot, Mounting Plate & Spring Catch Assy.	122562
10. Coin Separator, Slug Rejector	National
11. Latch Spring, Coin Separator	National

Playraks used in the Model 2800 Series Phonographs after December 20, 1963 will have Delrin cancel wheels with two additional holes drilled and threaded for a 6-32 screw. One 6-32 x 3/8 Nylon, Binding Washer Head Screw (Part No. 74977-14) will be installed. Using the standard factory setting of seven plays for a half dollar, this screw should be located in the right hand hole as viewed with the Playrak in its normal upright position. Whenever it becomes desirable to increase the number of credits for a half dollar from seven up to and including eleven, the Nylon screw must be moved to the left hand threaded hole. The screw should be turned completely in with care to avoid twisting the head of the screw off. The body of the screw extending through the elongated hole in the cancel wheel mounting plate provides a stop for the Delrin wheel.

When more than eleven credits, to the maximum fifteen credits for a half dollar are used, the Nylon screw should be backed out seven to eight full turns, which allows the body of the screw to clear the mounting plate.

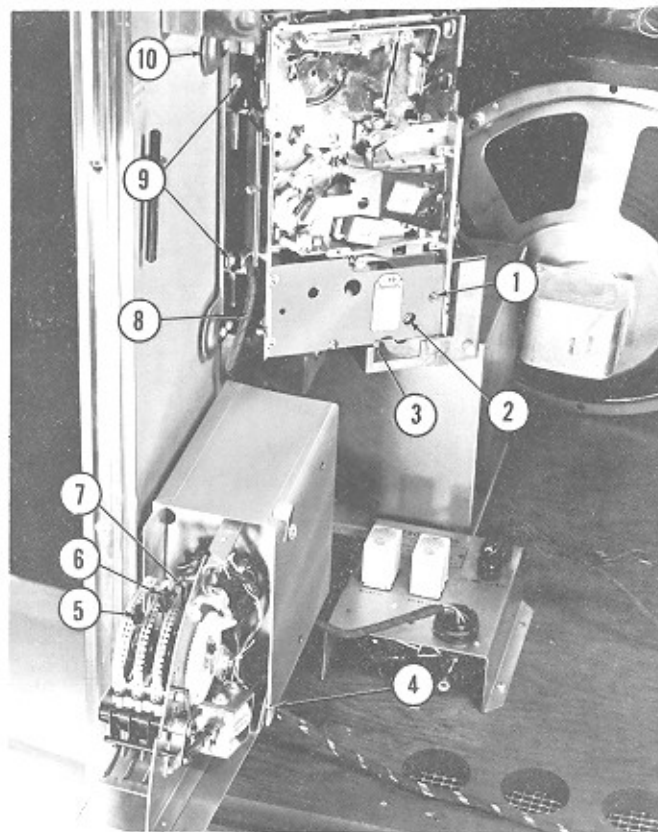


FIG. 2. COIN EQUIPMENT

1. Screw	National
2. Screw	National
3. Lever, 5c (Nickel Flipper)	National
4. Hinge Pin	66445
5. Stop Lever & Spring Assy. 50c	66132
6. Stop Lever & Spring Assy. 25c	66132
7. Stop Lever & Spring Assy. 10c	66132
8. Wire & Plug Assy.	123664
9. Screws	Adjusting
10. Mounting Plate	124223

The Playrak of the 2800 series phonograph is accessible for service after swinging down into the position as shown in (Fig. 2). The front plate of the Playrak is cut back to provide clearance for raising the unit and disengaging its hinge pins, one of which is shown at Item 4.

The complete Slug Rejector Assembly is mounted on two Hinge Pins (Fig. 1, Items 7 and 9) and may be pivoted as shown in Figure 2 by raising the Lower Coin Chute (Fig. 1, Item 1) and releasing the Spring Latch (Item 2). This provides convenient accessibility for service to the coin mechanism.

The Slug Rejector Assembly may be removed from the phonograph when in its unlatched, open position, as shown in Figure 2, by disconnecting the Five Prong Plug from the Playrak (Fig. 1, Item 5) and disengaging the two Hinge Pins (Fig. 1, Items 7 and 9). The Coin Separator (Fig. 1, Item 10) may be removed from the Mounting Channel and 50¢ Slug Rejector (Fig. 1, Item 8) by releasing the Latch Spring (Fig. 1, Item 11). After the Coin Separator has been removed, the 5-10-25¢ Slug Rejector (Fig. 1, Item 3) may be lifted out of the mounting.

The Slug Rejector Assembly has been adjusted to accept coins with the phonograph on a level surface. Should it be necessary to compensate for uneven footing, two methods are available.

a. The caster, where height is required, may be removed and 7/16" iron washers installed on the caster pin. Replace the caster and check for proper coin acceptance.

b. The Slug Rejector Assembly is adjustable by loosening six mounting screws, two of which are shown in Figure 2. The elongated mounting holes provide leveling adjustment front to back. Tighten the mounting screws and check for proper coin acceptance after adjustment.

Phonographs as shipped from the factory are normally set to operate one play for two nickels or one dime, three plays for a quarter and seven plays for a half dollar. When the phonograph is completely equipped with the Top Tunes selector, a choice of either the Ten Top Tunes from ten pre-selected records or by simply setting the selector lever on the automatic programmer assembly, ten tunes from both sides of 5 pre-selected records is available for the 50¢ coin by the operation of a single special Golden Bar. The selection of seven tunes of the customers choice by individual selections at the phonograph keyboard is available in either case. The phonograph may be changed to operate at one play for a nickle, two plays for a dime, 5 or more plays for a quarter, 10 or more plays up to 15 for a half dollar if desired, by removing the two screws

(Fig. 2, Items 1 and 2) and setting the Nickel Flipper (Fig. 2, Item 3) in the position which will cause each nickel to actuate the 5¢ coin switch. Replace the screws (Fig. 2, Items 1 and 2) in their reverse positions, thus holding the nickel flipper in the 5¢ play position. Replace the slug rejector and reset the three accumulator wheel Stop Levers (Fig. 2, Items 5, 6 and 7) to the required number of credits for dimes, quarters and half dollars.

The Coin Denomination Label which conforms to the pricing arrangement of the phonograph should be installed in the window casting in the right hand end of the selector button casting. The following list shows the various Coin Denomination Labels available:

Part No. 123985

7 Plays Half Dollar	9 Plays Half Dollar
3 Plays Quarter	4 Plays Quarter
1 Play Dime or 2 Nickels	1 Play Dime or 2 Nickels
10 Plays Half Dollar	6 Plays Quarter
5 Plays Quarter	2 Plays Dime
1 Play Dime or 2 Nickels	1 Play Nickel
10 Plays Half Dollar	5 Plays Quarter
4 Plays Quarter	2 Plays Dime
1 Play Dime or 2 Nickels	1 Play Nickel

Part No. 123986

Deposit Half Dollar	Deposit Half Dollar
Press Golden Bar	Press Golden Bar
7 Plays Half Dollar	10 Plays Half Dollar
3 Plays Quarter	5 Plays Quarter
1 Play Dime or 2 Nickels	1 Play Dime or 2 Nickels
Deposit Half Dollar	Deposit Half Dollar
Press Golden Bar	Press Golden Bar
5 Plays Quarter	10 Plays Half Dollar
2 Plays Dime	4 Plays Quarter
1 Play Nickel	1 Play Dime or 2 Nickels

Deposit Half Dollar
Press Golden Bar
9 Plays Half Dollar
4 Plays Quarter
1 Play Dime or 2 Nickels

Part No. 124442

14 Plays Half Dollar	10 Plays Half Dollar
6 Plays Quarter	5 Plays Quarter
2 Plays Dime	2 Plays Dime
1 Play Nickel	1 Play Nickel
12 Plays Half Dollar	
5 Plays Quarter	
2 Plays Dime	
1 Play Nickel	

To replace a coin denomination label, loosen the knurled thumb screw holding the coin denomination window casting in the right hand end of the selector button casting. Remove the window casting and remove two 5-40 x 1/4" R.H. screws which clamp the coin denomination label in the casting. Either of the various coin denomination labels packed in the cash bag, may be trimmed from the strip, Part No. 123985, Part No. 124442 or Part No. 123986 (for the top tunes) and placed between the window blanks. Install the assembly in the window casting with the translucent blank on the rear side. Replace the retaining clips and screws and replace the window casting in the selector switch casting.

It is recommended that National Rejectors, Inc., 5100 San Francisco Avenue, St. Louis 15, Missouri, or one of their branch offices, be employed for service or replacement of parts other than those indicated by Wurlitzer part numbers. The cleaning and adjustment of National components of the Slug Rejector Assembly should be made in accordance with Rejector Manual for the Model--22-000 NDQH Slug Rejector.

1. COIN MECHANISM ADJUSTMENTS

CAUTION!

Make these adjustments with the power OFF!

a. COIN SWITCH ADJUSTMENTS

Before making any adjustment to the coin switches shown in Figure 3, check to see that the

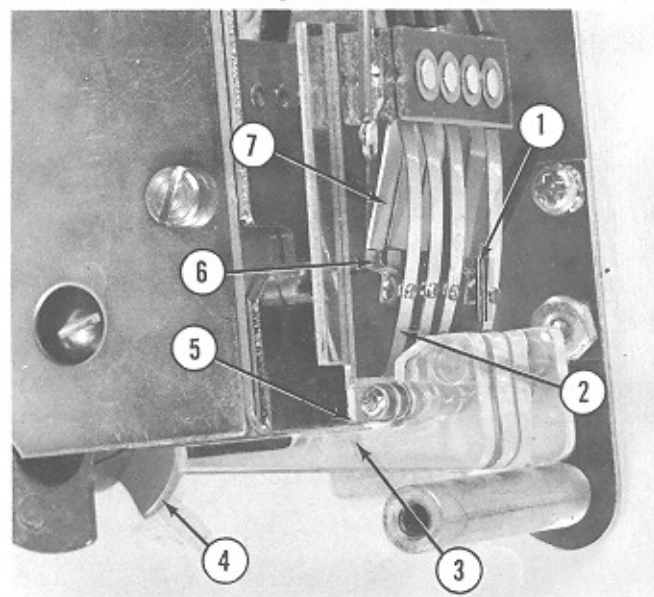


FIG. 3. COIN SWITCH ADJUSTMENT

- | | |
|--|----------|
| 1. Dimension, 1/16" Normally Open Contact Spacing | 119107 |
| 2. Movable Contact Blade, Coin Switch Assy. | 119107-B |
| 3. Short Paddle | |
| 4. Nickel Flipper | |
| 5. Switch Mounting Bracket, Switch & Bracket Assy. | 119107 |
| 6. Stationary Contact Blade, Coin Switch Assy. | 119107 |
| 7. Stiffener Blade, Coin Switch Assy. | 119107 |

plastic coin paddles (Item 3) are held against the Stop (Item 5) by the tension of the long movable blades (Item 2). Also check to see that the short stationary blades (Item 6) bear against the stiffener (Item 7) with sufficient tension to prevent vibration. This should be approximately one gram on the 10¢ short blade and two to three grams on the 5, 25 and 50¢ short blades.

The stiffener blades should be set to provide 1/16" opening of the contact points as shown at (Item 1).

The tension of the long movable blades should be adjusted so that a thin coin, when stopped on its coin paddle, as shown in (Fig. 4, Item 1), will actuate the movable blade, making contact with the stationary blade (Fig. 3, Item 6) and clear the paddle.

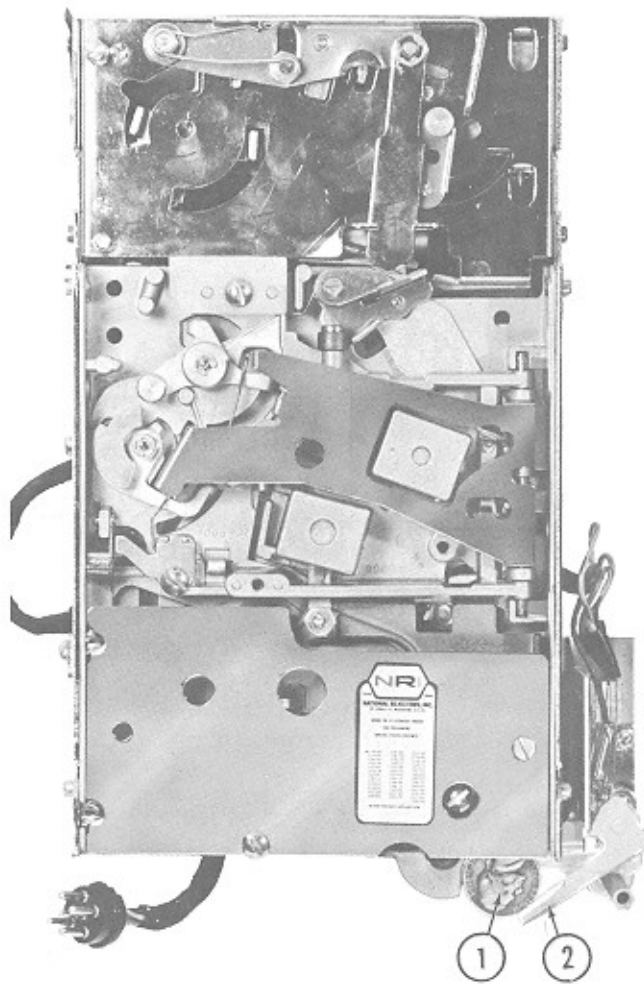


FIG. 4. COIN SWITCH ADJUSTMENT

1. Coin
2. Short Paddle

119107-B

A pulse of more than three seconds duration should normally blow the 8/10 ampere fuse (Fig. 1, Item 4) in the coin magnet circuit.

The final test for the coin switches should be made with the coin mechanism in the phonograph

in its normal operating condition. Test each individual coin track ten consecutive times with coins of varied wear. If one coin fails to register correctly, that particular coin switch should be examined and, if necessary, readjusted.

b. PLAYRAK ADJUSTMENTS

CAUTION!

Make these adjustment with the power OFF!

Before making any adjustments on the Playrak, check for the conditions shown in (Fig. 5). When the Studs (Item 6) on the lower end of the three Lever and Hub Assemblies are engaged with the first tooth of their respective Accumulator Wheels as shown, the Driver Pin (Item 4) of the Cancel Wheel Assembly should rest squarely against the edge of the three Accumulator Wheels as indicated at Item 3. Should this condition not exist, examine the Playrak for bent studs or sprung frame. Correction should be made before proceeding with the adjustments.

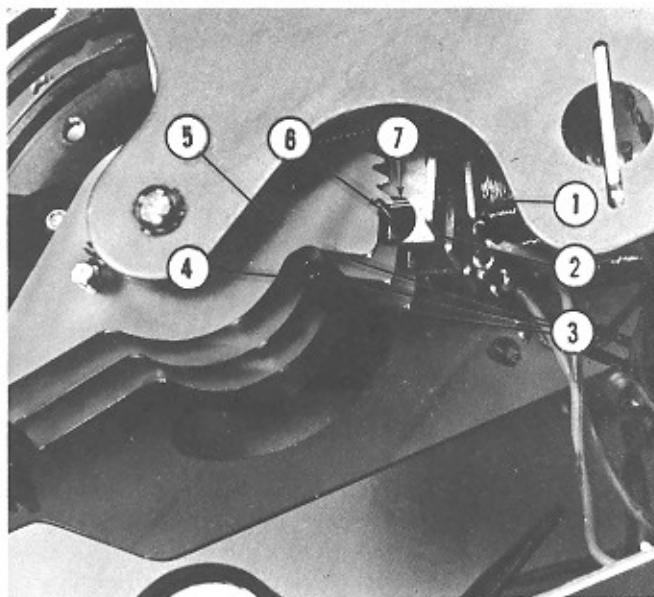


FIG. 5. PLAYRAK ADJUSTMENTS

1. Coin Magnet & Bracket Assy.	123641
2. Armature End of Lever, Hub & Stud Assy.	123643
3. Point of Contact, Driver Pin	
4. Driver Pin, Cancel Wheel & Hub Assy.	123628
5. Accumulator Wheel & Hub Assy.	123650
6. Stud, Lever, Hub & Stud Assy.	123643
7. Clearance .005" to .015"	

(1) KEY SWITCH ADJUSTMENT

The Key Switch and Bracket Assembly may be adjusted by loosening the mounting screws (Fig. 6, Item 1). The Cancel Wheel (Fig. 6, Item 6) should be in its normal rest position with all credits cancelled off. The Key Switch and Bracket Assembly (Fig. 6, Item 2) should be positioned so that the contacts are open approximately 1/32", also that the Vee formed portion of the longer contact blade rest on the center area of the Delrin Boss as shown

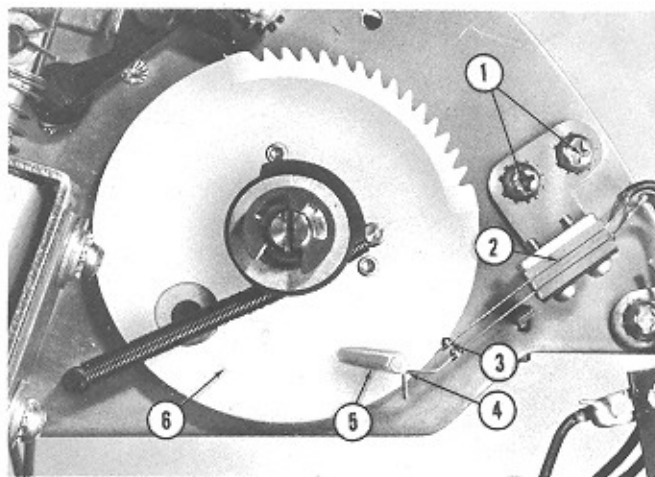


FIG. 6. KEY SWITCH ADJUSTMENT

1. Screw, 6-32 x 1/4", R. Hd.	73533-22
2. Key Switch Assy.	66082
3. Dimension 1/32" Spacing	
4. Vee Part of Contact Blade	
5. Moulded Boss	
6. Cancel Wheel Assy.	123628

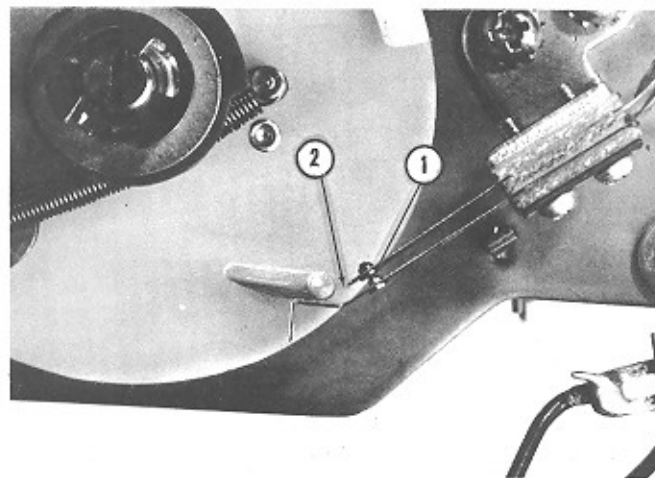


FIG. 7. SWITCH CLEARANCE ADJUSTMENT

1. Switch Closed, with one Credit
2. Clearance Between Moulded Boss

in Figure 6, Items 4 and 5. Tighten the Adjusting screws (Fig. 6, Item 1). Manually add on one credit and check to see that the Key Switch (Fig. 7, Item 1) is closed with 1/32" overtravel and that the Moulded Delrin Boss on the cancel wheel clears the end of the short blade of the Key Switch as shown in Fig. 7, Item 2. The switch leaves may be reformed to satisfy these conditions.

(2) STOP LEVER AND INDEXING STRIP ADJUSTMENT

The Stop Levers (Fig. 8, Item 1) should all be set at eight credits and the three escapement studs released allowing the three accumulator wheels (Fig. 9, Item 5) to advance to eight credits. The Driver Pin (Fig. 9, Item 4) on the cancel wheel should rest squarely against the edge of the three accumulator wheels as shown at (Fig. 9, Item 3).

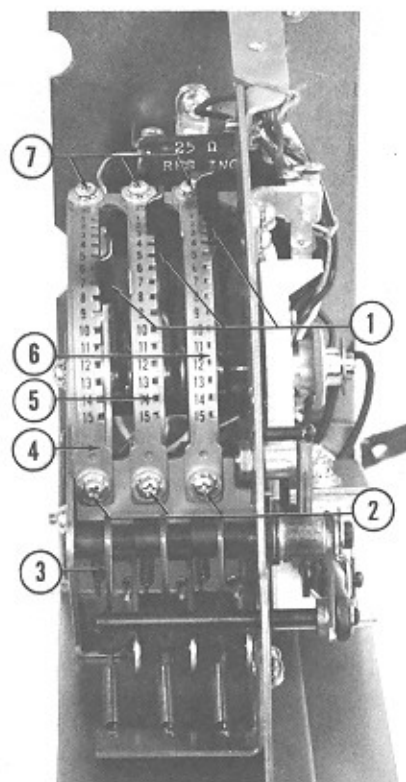


FIG. 8 STOP LEVER & QUADRANT INDEXING STRIP ADJUSTMENT

- | | |
|-------------------------------|---------|
| 1. Stop Lever & Spring Assy. | 66132 |
| 2. Screw, 4-40 x 3/16" R. Hd. | 73533-1 |
| 3. Hub & Lever Lockout Assy. | 123648 |
| 4. 50¢ Indexing Strip Assy. | 123657 |
| 5. 25¢ Indexing Strip Assy. | 123658 |
| 6. 10¢ Indexing Strip Assy. | 123659 |
| 7. Screw, 4-40 x 3/16" R. Hd. | 73533-1 |

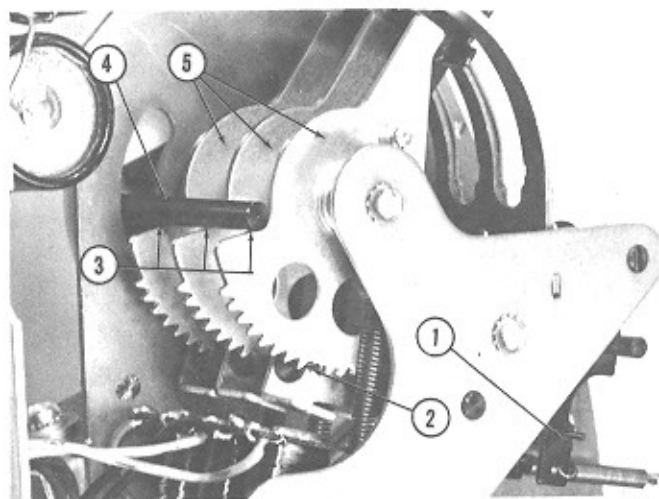


FIG. 9 STOP LEVER & QUADRANT INDEXING STRIP ADJUSTMENT

- | | |
|--|--------|
| 1. Hub & Lever Lockout Assy. | 123648 |
| 2. Stud In Recess of Eighth Credit Tooth | |
| 3. Just Touching Driver Pin | |
| 4. Driver Pin, Cancel Wheel Assy. | 123628 |
| 5. Accumulator Wheel & Hub Assy. | 123650 |

Should this condition not exist, loosen the Adjusting Screws (Fig. 8, Items 2 and 7) on the 50¢ Index Strip (Fig. 8, Item 4). Manually release the Lockout

Lever Assembly (Fig. 8, Item 3) and move the 50¢ Index Strip until the Stud (Fig. 9, Item 2) falls squarely on the eighth credit recess of the accumulator wheel. Tighten the Adjusting Screws (Fig. 8, Items 2 and 7) on the 50¢ Index Strip. Move the 25¢ and 10¢ Index Strips if necessary until the Accumulator Wheels all just touching the Driver Pin as shown in (Fig. 9, Item 3). Tighten Adjusting Screws and reset the Stop Levers to the proper credits.

(3) CANCEL STROKE ADJUSTMENT

The Cancel Solenoid Adjusting Screws (Fig. 10, Item 4) should be loosened and the Solenoid backed off before making this adjustment. Manually release the half dollar Accumulator Wheel (Fig. 9, Item 5) to add on credits then manually actuate the Cancel Solenoid Plunger at point shown in (Fig. 10, Item 5) until one credit remains. During manually cancelling the last credit off, the Cancel Pawl (Fig. 10, Item 3) should return the Cancel Wheel (Fig. 6, Item 6) and Accumulator Wheel (Fig. 11, Item 2) one full tooth plus .005" to .015" overtravel between Stud and Accumulator Wheel as shown in (Fig. 5, Item 7). Should adjustment be required, loosen the screw (Fig. 10, Item 2) and turn the Eccentric Adjustment Cam to provide the correct cancel action. Tighten the Screw (Fig. 10, Item 2)

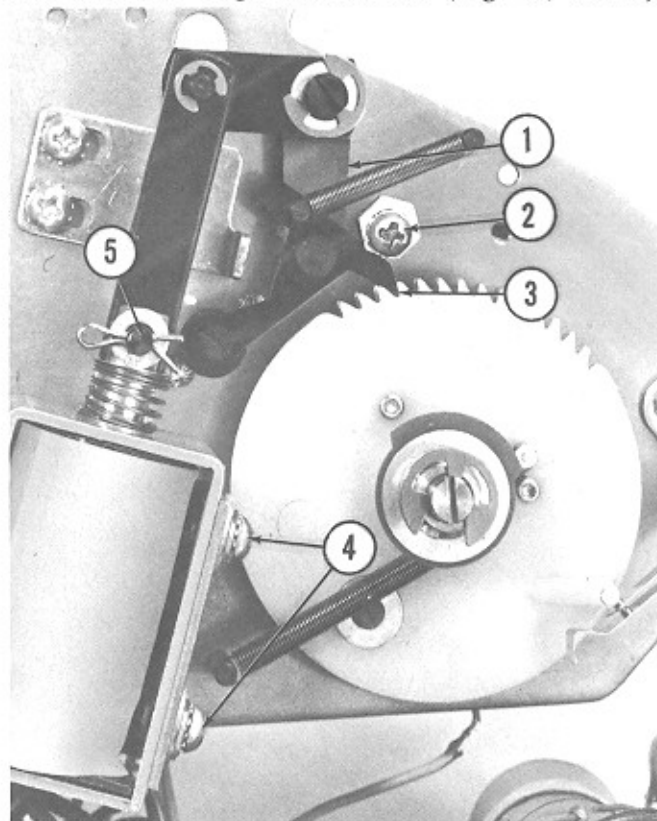


FIG. 10. CANCEL STROKE ADJUSTMENT

- | | |
|---|----------|
| 1. Pivot Arm & Pawl Assy. | 123637 |
| 2. Adjusting Cam | 42868 |
| 3. Pin & Pawl Assy. | 66127 |
| 4. Adjusting Screws, 6-32 x 1/4" R. Hd. | 73533-22 |
| 5. Manually Actuate at this Point | |

and its lock nut on the back of the mounting plate. After making this adjustment, check the 10¢ and the 25¢ Accumulator Wheel for proper operation.

The Cancel Solenoid should be positioned while manually holding the Cancel Solenoid Plunger in its actuated position as indicated in Fig. 10, Item 5. Move the Solenoid up in its elongated mounting holes until the plunger bottoms in the Solenoid, then tighten the Adjusting Screws (Fig. 10, Item 4).

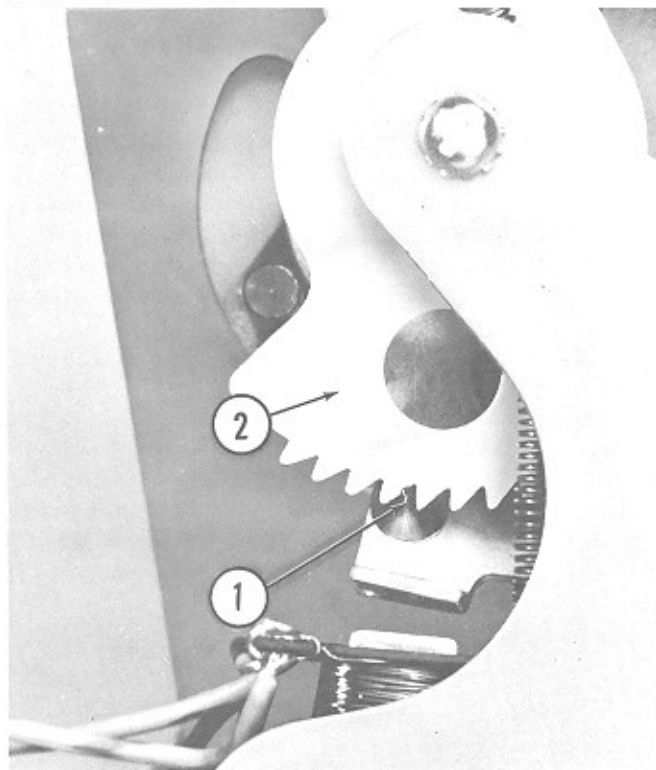


FIG. 11. OVERTRAVEL - CANCEL STROKE ADJUSTMENT

1. Little or No Overtravel
2. Accumulator Wheel & Hub Assy.

123650

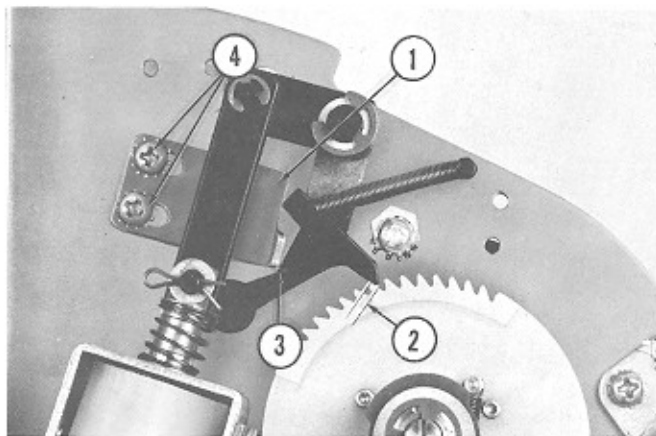


FIG. 12. STOP BRACKET ADJUSTMENT

1. Stop Bracket, Pawl 66069
2. Dimension, 1/3 of the Total Depth of Tooth
3. No Drag of Pawl on Bracket
4. Adjusting Screw, 6-32 x 1/4" R. Hd. 73533-22

(4) CANCEL PAWL STOP BRACKET ADJUSTMENT

Loosen the Adjusting Screws (Fig. 12, Item 4) and move the Stop Bracket (Item 1) to permit the Cancel Pawl to engage the eighth tooth of the Cancel Wheel at 1/3 total depth of the tooth as shown at (Item 2). During cancel operation, the cancel pawl Stop Bracket (Item 1) should be free from the edge of the Cancel Pawl (Item 3) marked "No Drag".

2. SELECTOR SWITCH ADJUSTMENT

The Selector Switch Assembly on the Model 2800 Series Phonograph may be serviced without removing the assembly from the cabinet. However, when it becomes necessary to remove the selector switches, open the lower front door which is hinged along the edge under the "Stereo by Wurlitzer" sign. A spring-loaded latch lever will be found inside the cabinet at each end of the selector switch assembly. The switch assembly is attached to two mounting brackets which are mounted to the sides of the cabinet by two hexagon thumb screws. The complete switch assembly may be removed by removing the four thumb screws.

a. STOP NUT ADJUSTMENT

The Stop Nut (Fig. 13, Item 7) should be adjusted to provide free movement of the two Cam and Hub Assemblies; Pre-Set (Fig. 13, Item 5) and the Cam and Hub Assembly, Latch (Item 8). This may be accomplished by first removing the spring (Item 4) which is over the Stop Nut (Item 7) then turn the Stop Nut down until the Cam and Hub Assemblies are jammed. Back the Stop Nut off one quarter turn and check the pivot action by manually operating the Pre-Set Solenoid Plunger (Fig. 13, Item 2).

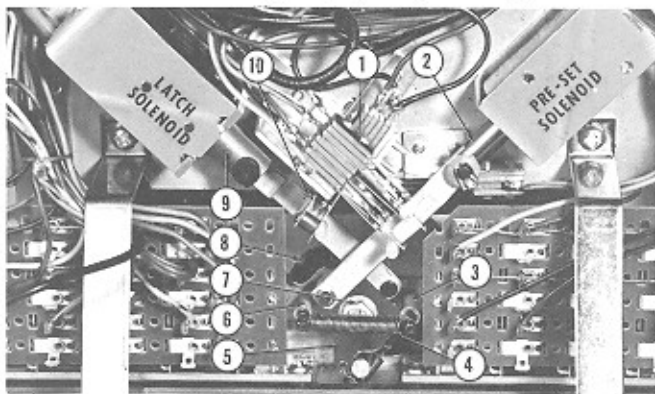


FIG. 13. SELECTOR SWITCH ADJUSTMENT

1. Switch Assy., Control 124141
2. Solenoid Plunger, Pre-Set 60717-A
3. Link & Pin Assy. 124065
4. Spring, Selector Switch Latch Bar 124039
5. Cam & Hub Assy., Pre-Set 124062
6. Link & Pin Assy. 124065
7. Stop Nut, 8-32 73871-18
8. Cam & Hub Assy., Latch 124063
9. Solenoid Plunger, Latch 121095-A
10. Switch Assy., Latch 60518

b. LATCH BAR ADJUSTMENT

Figure 14 shows the underside of the selector switch assembly with two Link and Pin Assemblies (Items 3 and 9) which actuate the latch bars. The adjustment procedure is the same on either the 200 or 100 selection switch assembly for either the Letter Latch or the Number Latch Bar.

(1) To adjust the Letter Latch Bar (Fig. 15, Item 5). Loosen the two Adjusting Screws (Item 3). Insert a .005" Thickness Gauge between a Selector Push Rod and the Tip of the Latch on the Letter Latch Bar as shown in (Fig. 15, Item 4). Tighten the Adjusting Screws (Item 3).

(2) The Number Latch Bar (Fig. 14, Item 6) may be adjusted by loosening the two Screws (Fig. 14, Item 5). Insert a .005" Thickness Gauge between a Number Push Rod and the Tip of the Latch on the Number Latch Bar as shown for the Letter Latch Adjustment in (Fig. 15, Item 4). After correct adjustment, tighten the Adjusting Screws (Fig. 14, Item 5).

(3) When both Latch Bars have been correctly adjusted, manually actuate the Pre-Set Solenoid Plunger (Fig. 13, Item 2) and check each selector switch for proper latching and release by depressing the A Key, then the B Key, etc. As the B Key is depressed, it should release A, and so on down the entire series of selector keys. The last letter key and the number key depressed should remain latched. Should any switch fail to latch or release, that Latch Bar should be reset using the particular Letter or Number switch as the adjustment reference, and being sure that .005" clearance is maintained between the Latch Bar and Push Rod.

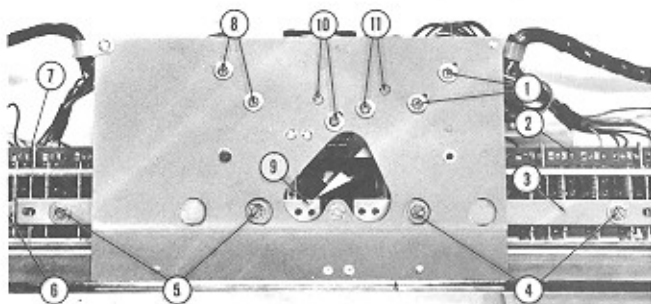


FIG. 14. SELECTOR SWITCH ADJUSTMENT

1. Adjusting Screw, 6-32 x 1/4" R. Hd.	73533-22
2. Selector Switch, Letter - 2800	124127
2810	124128
3. Link & Pin Assy.	124065
4. Adjusting Screw, 8-32 x 3/4" Hex	71493-40
5. Adjusting Screw, 8-32 x 3/4" Hex	71493-40
6. Latch Bar of Number Switch	
7. Selector Switch, Number 2800	124129
2810	124130
8. Adjusting Screw, 6-32 x 1/4" R. Hd.	73533-22
9. Link & Pin Assy.	124065
10. Adjusting Screw, 6-32 x 1/4" R. Hd.	73533-22
11. Adjusting Screw, 6-32 x 1/4" R. Hd.	73533-22

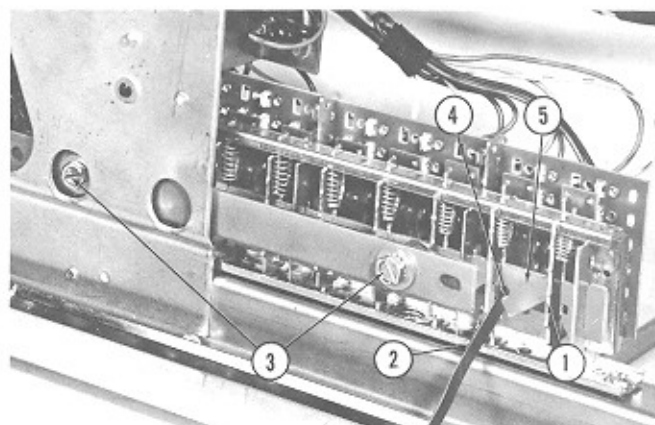


FIG. 15. SELECTOR SWITCH ADJUSTMENT

1. Push Rod of Selector Switch Assy.
2. Thickness Gauge .005"
3. Adjusting Screw, 8-32 x 3/4" Hex
4. Tip of Latch Bar

71493-40

c. PRE-SET SOLENOID ADJUSTMENT

Loosen the two mounting Screws (Fig. 14, Item 8) and manually actuate the Plunger (Fig. 16, Item 1) to position the Cam and Hub Assembly (Fig. 16, Item 3). The letter latch Link and Pin Assembly (Fig. 16, Item 4) must have a minimum of clearance as shown between the Pin (Item 4) and the lobe on the Cam (Item 3) as shown at Item 5. The Pre-Set Solenoid should be located so that the plunger strikes bottom. Maintain the correct alignment to prevent any bind. Tighten the two mounting Screws (Fig. 14, Item 8) and check for proper mechanical operation.

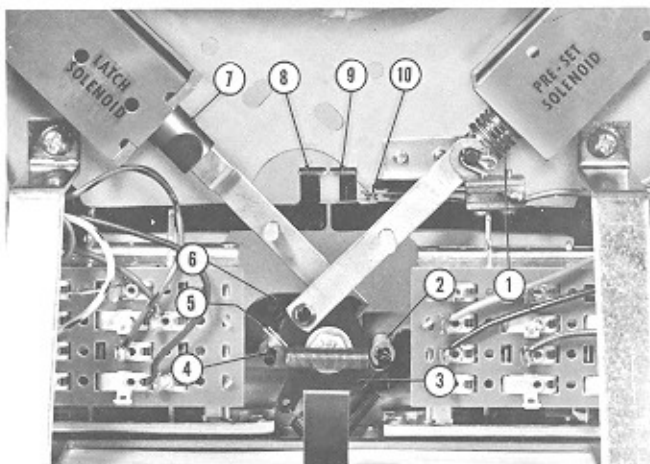


FIG. 16. SELECTOR SWITCH ADJUSTMENT

1. Solenoid Plunger, Pre-Set	60717-A
2. Link & Pin Assy.	124065
3. Cam & Hub Assy., Pre-Set	124062
4. Link & Pin Assy.	124065
5. Clearance	Minimum
6. Cam & Hub Assy., Latch	124063
7. Solenoid Plunger, Latch	121095-A
8. Lever & Pin Assy., L.H.	124122
9. Lever & Pin Assy., R.H.	124123
10. Switch, Anti-Cheat	124056

d. LATCH SOLENOID ADJUSTMENT

To adjust the Latch Solenoid, loosen the two mounting screws (Fig. 14, Item 1). Manually actuate the Pre-Set Solenoid Plunger (Fig. 16, Item 1) and depress one letter key and one number key. Both should remain latched. Manually actuate the Latch Solenoid Plunger (Fig. 16, Item 7) then release the Pre-Set Solenoid Plunger (Item 1). The Cam and Hub Assembly, Latch (Fig. 16, Item 6) should engage the two Pins (Items 2 and 4) holding the Number and Letter Latch Bars firmly with no lost motion. Maintain this position and set the Latch Solenoid to bottom against the plunger and tighten the Mounting Screws (Fig. 14, Item 1).

e. CONTROL SWITCH ADJUSTMENT

The Control Switch Assembly (Fig. 13, Item 1) should be adjusted so the normally open contacts close during the last 1/16" of travel of pre-set solenoid Plunger (Item 2). This is accomplished by loosening the adjusting Screws (Fig. 14, Item 11). Position the Control Switch (Fig. 13, Item 1) so that the normally open contacts close 1/16" before the solenoid Plunger (Item 2) hits bottom of the Pre-Set Solenoid. Tighten the Adjusting Screws (Fig. 14, Item 11). Manually operate the Pre-Set Solenoid Plunger and check the operation of the switch for correct adjustment.

Note: Contacts 4 and 5 (Fig. 13, Item 1) of the control switch should be open when the pre-set solenoid is energized. This places a protective resistor of 125 ohms in series with this solenoid to prevent damage if the key board is left with a credit on for a great period of time.

f. LATCH SWITCH ADJUSTMENT

The Latch Switch Adjustment (Fig. 13, Item 10) has two normally open contacts which should have a gap of 1/32" and close with 1/32" overtravel. The switch mounting bracket is adjustable by loosening the two Mounting Screws (Fig. 14, Item 10). The contacts should be set to close on the last 1/16" to 1/8" of plunger travel. To actuate the latch switch it will be necessary to manually actuate the Pre-Set Solenoid Plunger (Fig. 13, Item 2) and while maintaining this condition, manually actuate the Latch Solenoid Plunger (Item 9).

g. ANTI-CHEAT SWITCH

The Anti-Cheat Switch Assembly has a pair of normally open contacts (Fig. 16, Item 10) which are controlled by the Lever and Pin Assembly (Fig. 16, Items 8 and 9). To adjust, manually operate the Pre-Set Solenoid Plunger (Fig. 16, Item 1). After the Plunger has bottomed in the Solenoid the Anti-Cheat switch should be closed with

a good 1/32" overtravel. Pressing a Letter or Number Key will open the Anti-Cheat Switch during its downward travel. After the Letter or Number Key has latched, the Anti-Cheat Switch should close. Should adjustment be required, the contact blades of the Anti-Cheat Switch may be formed with the aid of a contact adjusting tool.

3. ELECTRIC SELECTOR ADJUSTMENTS

Note: All adjustments on the 2800 Electric Selector Assembly may be made with the assembly mounted on the changer or removed from the changer. However, the power should be turned off if adjustment is being made with the assembly mounted on the changer.

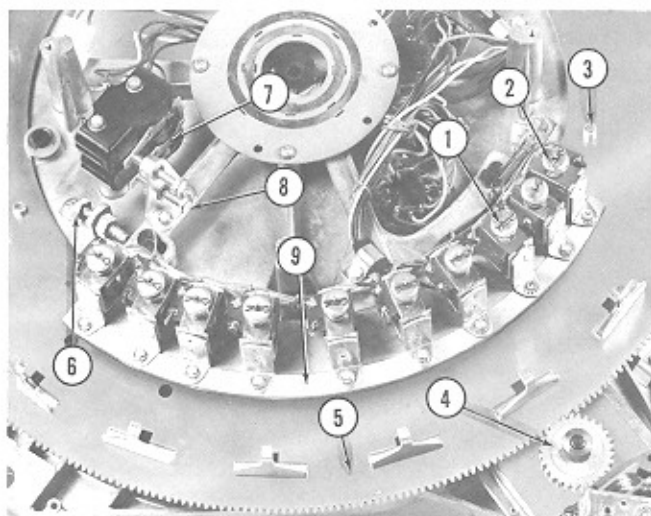


FIG. 17. ELECTRICAL SELECTOR - 2800

1. Solenoid, Selector Stop, No. "0"	68617
2. Solenoid, Selector Stop, No. "1"	68804
3. Stop Pin (10)	115411
4. Gear & Hub Assy.	68717
5. Rotating Plate & Rocker Assy.	111481
6. Screw, 10-32 x 1", Hex	73660-159
7. Start Switch	110558
8. Screw, 8-32 x 1", Hex	73793-88
9. Mounting Casting, Stop Solenoid	68276

a. ROTATING PLATE AND ROCKER ARM ADJUSTMENT - 2800

(1) Manually depress the No. Zero Solenoid Plunger (Fig. 17, Item 1) and turn the Rotating Plate and Rocker Arm Assembly (Item 5) in a clockwise direction by turning the nylon gear (Item 4) of the Selector Motor assembly. One of the Stop Pins (Item 3) on the rocker plate assembly, will contact the depressed solenoid plunger. Continued rotation of the nylon gear will drive the number Quadrant (Item 9) until it stops against the forward stop screw (Item 6). In this position the left edge of the Rocker Arm Tip should lead the left hand edge of the number Zero Selector Pin by 1/32" with a tolerance up to center of the Rocker Arm Tip. See Figure 18, Item 1. Check this alignment at each of the twenty

number Zero selector pins. Also check the position of the letter solenoid plungers for the safety factor of $1/32''$ to $1/16''$ as shown at Figure 18, Item 2. The forward Stop Adjusting Screw (Fig. 17, Item 6) may be set to provide correct alignment.

(2) Release the nylon gear and allow the number Quadrant to return to rest position. Repeat the forgoing steps, depressing the number One Stop Solenoid Plunger (Fig. 17, Item 2). Manually hold the number Quadrant (Item 9) in its forward position with the nylon gear (Item 4) and check the alignment of the twenty Letter Solenoid Plungers (Fig. 19, Item 1) with the rocker arm actuating bars. The number One position will be at the opposite end of the rocker arm actuating bar from the number Zero position and the left hand edge of the formed tip of the letter solenoid plungers should be flush with the left hand edge of the rocker arm actuating bars to a maximum of $1/32''$ overtravel. Also check the alignment of all number One selector pins with the tips of the twenty rocker arms. They should lead the left hand edge of the number One Selector Pins (Fig. 19, Item 2) by $1/32''$ with a tolerance up to the center of rocker arm tip.

b. START SWITCH ADJUSTMENT

The Start Switch (Fig. 17, Item 7) should be checked after any adjustment of the forward stop screw (Fig. 17, Item 6). It is actuated by the forward movement of the number Quadrant (Item 9) and the Adjusting Screw (Fig. 17, Item 8). It is important that this switch operate at its specified time for trouble free phonograph performance. The following method may be used to adjust the start switch:

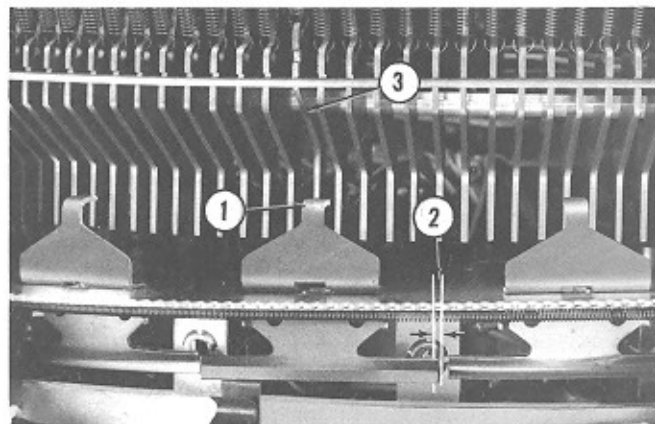


FIG. 18. ELECTRICAL SELECTOR - 2800

- | | |
|--|--------|
| 1. Tip of Rocker Arm (20) | 67926 |
| 2. Dimension, $1/32''$ to $1/16''$ Safety Factor | |
| 3. Selector Latch Pin, No. "0" | 110942 |

Manually hold a number solenoid plunger depressed. Turn the Rotating Plate and Rocker Arm Assembly in a clockwise direction by turning the Selector Motor Nylon Gear (Fig. 17, Item 4) until the number Quadrant (Item 9) rests against the

forward Stop Screw (Item 6). Hold the number Quadrant firmly in position with the nylon gear and back out the adjusting Screw (Fig. 17, Item 8) until the switch is in its normally open position. Turn the Adjusting Screw (Item 8) in until the Start Switch actuates plus one full turn for overtravel.

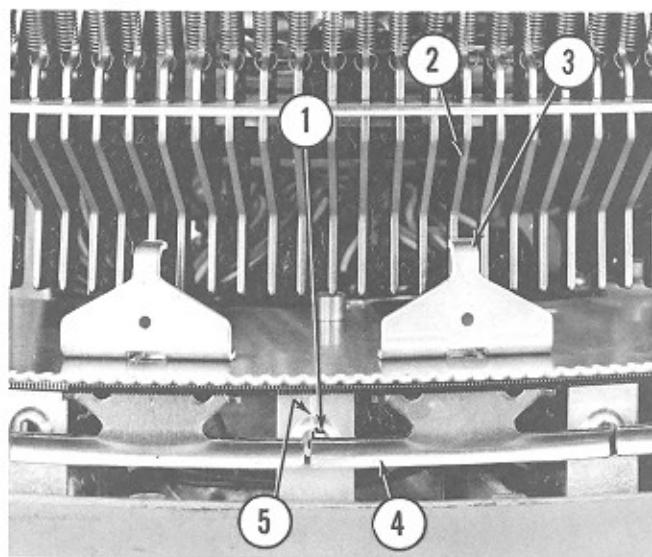


FIG. 19. ELECTRICAL SELECTOR - 2800

- | | |
|--|--------|
| 1. Formed Tip of Plunger, Letter Selector | 68496 |
| 2. Number 1 Latch Pin (Inner) | 110941 |
| 3. Tip of Rocker Arm (20) | 67926 |
| 4. Actuating Bar, Rocker Arm | 67926 |
| 5. Dimension, $1/32''$ Overtravel, Maximum | |

c. BACK STOP SCREW ADJUSTMENT

The number Quadrant (Fig. 20, Item 4) is held against the Back Stop Screw (Item 2) in its normal rest position by the Retracting Spring (Item 3). The Back Stop Screw should be adjusted to provide $1/16''$ overtravel of the number Quadrant after the Start Switch (Item 1) resets on return of the number Quadrant. The following method may be used to adjust the Back Stop Screw:

The number Quadrant must be in its normal rest position.

Turn the Back Stop Screw (Fig. 20, Item 2) in, driving the number Quadrant (Item 4) forward until the Start Switch (Item 1) actuates. Turn the Back Stop Screw out until the Start Switch resets plus two full turns for overtravel.

d. REVERSE SWITCH ADJUSTMENT

This adjustment should follow any adjustment of the Back Stop Screw. Figure 20, Item 6 shows the Reverse Switch. The adjustment should be made while the number Quadrant (Item 4) is in its normal rest position by turning the Adjusting Screw (Item 5) in until the Reverse Switch actuates. Then back the adjusting screw out until the Reverse Switch resets plus one half to one full turn for overtravel.

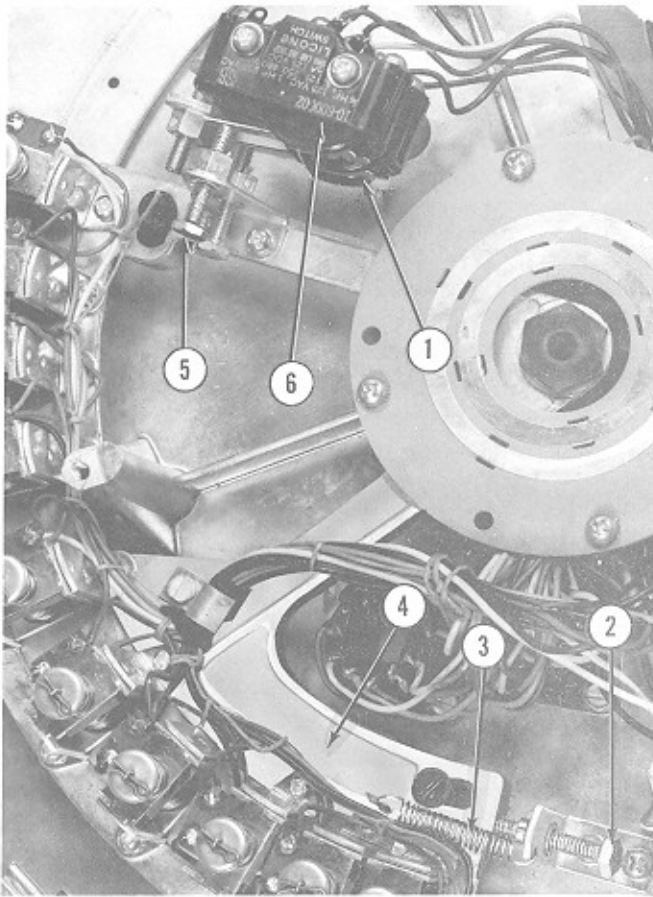


FIG. 20. ELECTRIC SELECTOR - 2800

1. Start Switch	110558
2. Screw, 10-32 x 1", Hex	73660-159
3. Spring	62773
4. Mounting Casting Assy., Number Quadrant	115915
5. Screw, 8-32 x 1", Hex	73793-88
6. Switch, Reverse	110558

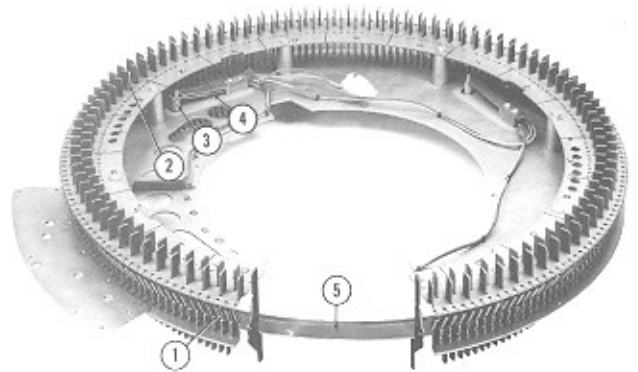
e. OVERRIDE SWITCH ADJUSTMENT (WOBBLE PLATE SWITCH)

(1) 2800 Electric Selector

Turn off service switch.

When a Selector Latch Pin (Fig. 21, Item 2) is released, the Wobble Ring (Item 5) is moved upward by the tension of the Selector Latch Pin Spring (Item 1). The Spacer (Item 3) closes the contacts of one of the Override Switches (Item 4). To check for correct switch action, choose a selector pin midway between two spacers. Release the selector pin and slowly work the pin up and down. The override switch contacts on each side of the selector pin should make at about one third of the upward travel of the pin and allow the pin to make its full travel. Each set of contacts should close with a minimum of 1/32" overtravel and the normally open contact spacing should be 1/16". Should adjustment be required form the blades with a suitable contact adjusting tool. Each pair of Override Switches should be checked using pins No. E8, K8,

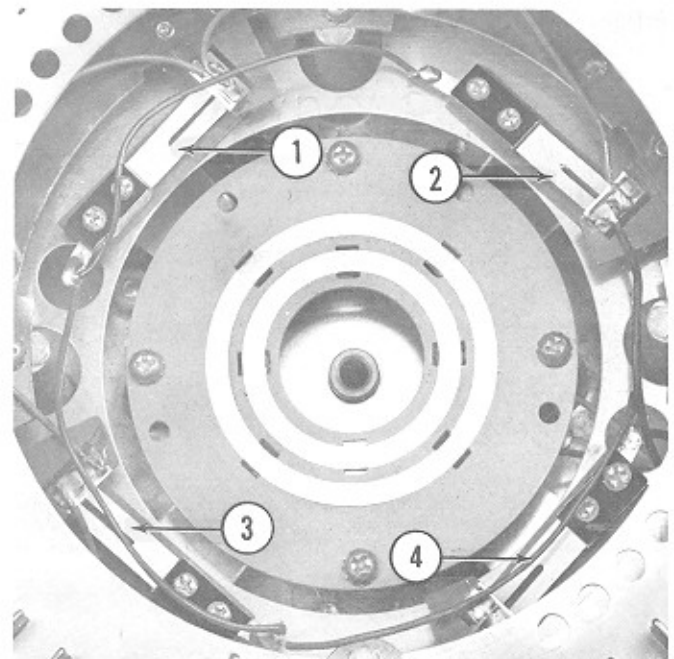
Q8 and V8, making sure that the contacts on each side of the released selector pin close with good overtravel and permit the pin to make its full travel.

FIG. 21. SELECTOR PLATE & LATCH
PIN ASSEMBLY

1. Spring (200)	110480
2. Latch Pin, Inner (100)	110941
3. Spacer (4)	68650
4. Switch Assembly	65952
5. Wobble Ring	67927

(2) 2810 ELECTRIC SELECTOR

The Override Switches are mounted on the Wobble Plate in the 2810 Electric Selector as shown in Figure 22, Items 1, 2, 3 and 4. Selector Pins No. C3, E9, H4 and K9 should be used to check the override switch in line with the pins noted above. A convenient method is as follows:

FIG. 22. OVERRIDE SWITCH - ELECTRICAL
SELECTOR - 2810

1. Contact Assy., Override Switch	115918
2. Contact Assy., Override Switch	115918
3. Contact Assy., Override Switch	115918
4. Contact Assy., Override Switch	115918

(a) Turn the Service Switch on the junction box, OFF.

(b) Release selector pin C3 and manually move the selector pin down and allow it to slowly move up. When the lower edge of the latch recess in the outside edge of the pin is $1/32$ " above the latch plate the override switch adjacent to C3 selector pin should close. The contact tension should be adjusted to allow the pin to make its full upward travel. Each override switch should be checked and adjusted in the same manner using the pins listed in the first paragraph above.

f. ROTATING PLATE AND ROCKER ARM ADJUSTMENT - 2810

To adjust the Rotating Plate and Rocker Arm alignment, remove the Electric Selector Assembly from the changer mechanism and remove the bottom cover. Stand the assembly on edge with the components in the position shown in Figure 23.

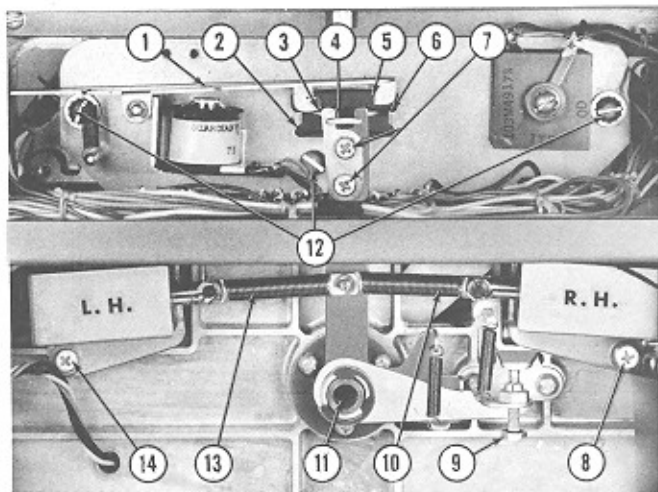


FIG. 23. ROTATING PLATE & ROCKER ARM ADJUSTMENT

1. Stop Arm Adjustment	115862
2. Stop Tab - Mounting Plate & Spring Stud Assy.	117986
3. Stop Tab - Stop Arm Assy.	115862
4. Stop Bracket - Selector	115789
5. Stop Tab - Stop Arm Assy.	115862
6. Stop Tab - Mounting Plate & Spring Stud Assy.	117986
7. Screw, 8-32 x 5/16", R.H.	73533-35
8. Screw, 8-32 x 5/16", R.H.	73533-35
9. Screw, 8-32 x 7/8", Hex	73793-87
10. Spring & Plug Assy.	64783
11. Centering Shaft & Plate Assy.	115812
12. Screw, 10-32 x 7/16", R.H.	73692-49
13. Spring & Plug Assy.	64783
14. Screw, 8-32 x 5/16", R.H.	73533-35

(1) The Guide Plate held by the Adjusting Screws (Fig. 23, Item 7) should be set to Zero clearance with the Stop Bracket (Item 4) on the Rotating Plate and Rocker Arm Assembly.

(2) The Adjusting Screw (Item 9) should

be set to align the tips of the twenty Rocker Arms (Fig. 24, Item 3) with ten Selector Pins number Three, A through K and ten Selector Pins number Eight, A through K. This is the normal rest position for the Rotating Plate and Rocker Arm Assembly. To check the alignment of the rocker arms with the other selector pins the following steps are suggested.

(a) Manually move the Rotating Plate and Rocker Arm Assembly to the extreme right hand stop position with the Stop Bracket (Fig. 23, Item 4) resting against the Stop Tab (Item 6). In this position the tips of the twenty rocker arms should be in alignment with ten selector pins number One, A through K and ten selector pins number Six, A through K. Should adjustment be required, the three Mounting Screws (Item 12) may be loosened and the Stop Magnet Mounting Plate moved to provide correct alignment.

(b) Manually hold the Rotating Plate and Rocker Arm Assembly in its extreme left hand position with the Stop Bracket (Fig. 23, Item 4) resting against the Stop Tab (Item 2). In this position the tips of the twenty rocker arms should be in alignment with ten selector pins number Five, A through K and ten selector pins number Zero, A through K. The Stop Coil Mounting Plate may be moved by loosening the three Screws (Item 12) to arrive at a satisfactory setting for both the right and left hand position.

(c) The right hand intermediate stop position should be checked by manually operating the Stop Magnet Armature (Item 1) and moving the Rotating Plate and Rocker Arm Assembly to position the Stop Bracket (Item 4) against the Stop Tab (Item 5) on the Armature. In this position the tips of the twenty Rocker Arms (Fig. 24, Item 3) should be in alignment with ten selector pins number Two, A through K, and ten selector pins number Seven, A through K. Adjustment is accomplished by forming the Stop Tab (Fig. 23, Item 5) on the Armature.

(d) The left hand intermediate stop position should be checked in the same manner as for the right hand stop. The Stop Bracket (Fig. 23, Item 4) should be manually held against the Stop Tab (Item 3) on the Stop Magnet Armature. In this position the tips of twenty Rocker Arms (Fig. 24, Item 3) should be in alignment with the ten selector pins number Four, A through K, and ten selector pins number Nine, A through K. The Stop Tab (Fig. 23, Item 3) may be formed should adjustment be required.

g. DRIVER SOLENOID ADJUSTMENT

(1) The two Driver Solenoids shown in Figure 23 labeled L.H. and R.H. serve to turn the

Rotating Plate and Rocker Arm Assembly to position the tips of the Rocker Arms at the correct Selector Pin as determined by the number button selected. To check the adjustment, manually hold the R.H. Driver Solenoid Plunger bottomed in the Solenoid. The coupling spring of the Plug and Spring Assembly (Fig. 23, Item 10) should stretch $1/16''$ while the Stop Bracket (Item 4) on the Rotating Plate and Rocker Arm Assembly is held firmly against the extreme Right Hand Stop (Item 6). Adjustment may be accomplished by loosening two screws in the Solenoid Mounting Bracket, one of which is shown at Item 8. It is important to maintain the straight-in-line position between the Solenoid and Plunger and there must be no bind on the Rotating Plate or its operating linkage.

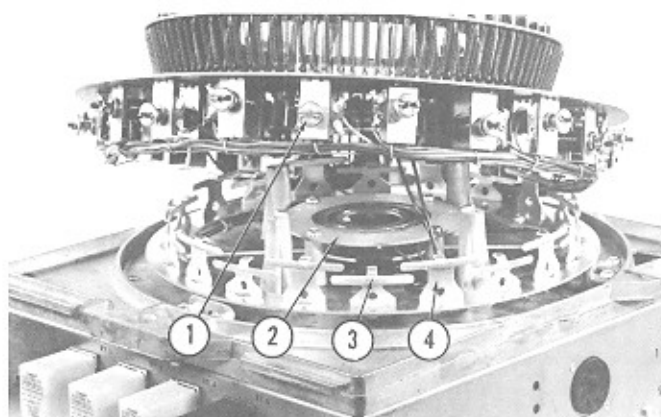


FIG. 24. ELECTRIC SELECTOR ASSY. - 2810

1. Solenoid, Selector (20)	64602
2. Contact Plate Assy.	66186
3. Tip of Rocker Arm, Short (10)	117692
4. Rocker Arm Long (10)	115788

(2) The L.H. Driver Solenoid should be checked by manually holding the Plunger bottomed in the Solenoid. The Coupling Spring (Item 13) should stretch $1/16''$ while the Stop Bracket (Item 4) on the Rotating Plate and Rocker Arm Assembly is held firmly against the extreme Left Hand Stop (Item 2). The Solenoid is adjusted by loosening the two mounting screws, one of which is shown at (Item 14).

h. ELECTRIC SELECTOR CENTERING

Centering of the 200 Selector Assembly must be carefully done whenever the unit is removed from the Changer Mechanism. The assembly is held in position by two mounting Screws (Fig. 25, Item 6) and by the Mounting Plate and Silk Screen Assembly (Fig. 26, Item 4) at the rear of the changer.

(1) To remove the Electric Selector Assembly from the changer mechanism, remove the lower and upper rear doors from the cabinet. Disconnect the mute plug from the amplifier, the chassis plug from the junction box and the changer motor plug from the junction box. The cables wired

to the plugs disconnected above should be removed from the cable clips on the Support Plate and Silk Screen Assembly (Fig. 26, Item 4) and placed on top of the chassis mounting plate where they will be out of the work area. Disconnect the four plugs on the bottom of the Electric Selector. Manually rotate the Record Carrier so that the Selector Crank Arms are approximately over A-0 and L-0 selections. Remove the two front Mounting Cap Screws (Fig. 25, Item 6) first, which allows the Electric Selector to rest on the front Guide Brackets (Fig. 25, Items 1 and 5). Loosen the rear upper Mounting Screws (Fig. 26, Item 2). Grasp the rear support plate with one hand below the screws and remove both screws (Fig. 26, Item 2). Lower the Support Bracket and the rear edge of the Electric Selector far enough to clear the rotary contact wipers on the bottom of the main shaft. With the other hand supporting the Electric Selector from underneath, slowly move the Assembly down and to the rear, carefully removing it from the cabinet.

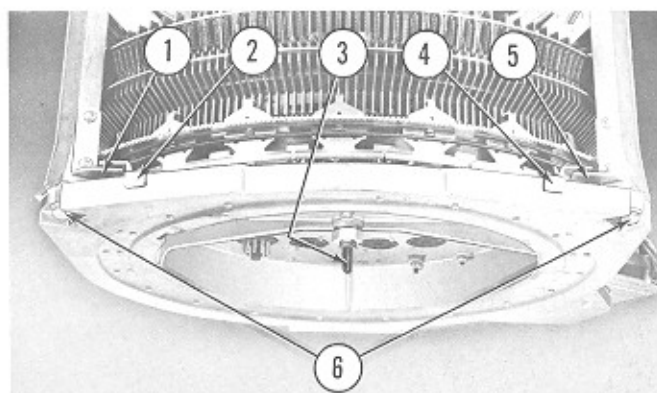


FIG. 25. ELECTRICAL SELECTOR CENTERING - 2800

1. Guide Bracket, L.H. Selector Support Casting	68757
2. Guide Bracket, L.H.	68759
3. Centering Shaft	69247
4. Guide Bracket, R.H.	68760
5. Guide Bracket, R.H. Selector Support Casting	68758
6. Mounting Screw, 1/4-20 x 1", Socket Hd.	73571-66

(2) To install the Electric Selector Assembly after servicing, check to see that the Selector Crank Arms are in the same position as for removal of the assembly. Carefully engage the Brackets (Fig. 25, Items 2 and 4) with the Support Brackets (Items 1 and 5). Use caution to avoid damaging the rotary wiper contacts on the bottom of the main shaft. Lift the rear Support Bracket and insert the Mounting Screws (Fig. 26, Item 2), tighten both screws (Fig. 26, Item 2).

Insert the Centering Shaft (Fig. 25, Item 3) through the center bushing in the Electric Selector and into the Main Shaft. NOTE: A No. 2 Phillips Screw Driver may be substituted for the Wurlitzer Centering Shaft.

Install the two front Mounting Cap Screws (Fig. 25, Item 6), turning them in by hand

until the mounting surfaces make contact. While in this loose condition, locate the Electric Selector so that the Centering Shaft (Fig. 25, Item 3) slides freely in and out of the Main Shaft. Carefully maintain this adjustment and tighten the two front mounting screws. As a final test for correct centering of the Electric Selector, insert the Centering Shaft into the main Selector Shaft. One full turn of the Record Carrier in a clockwise direction should cause the Centering Shaft to drop out. If the Centering Shaft does not drop out, the mounting screws should be loosened and the assembly recentered. When centering of the Electric Selector Assembly has been completed, the selector crank arm adjustments should be checked and the mechanism checked for correct selections.

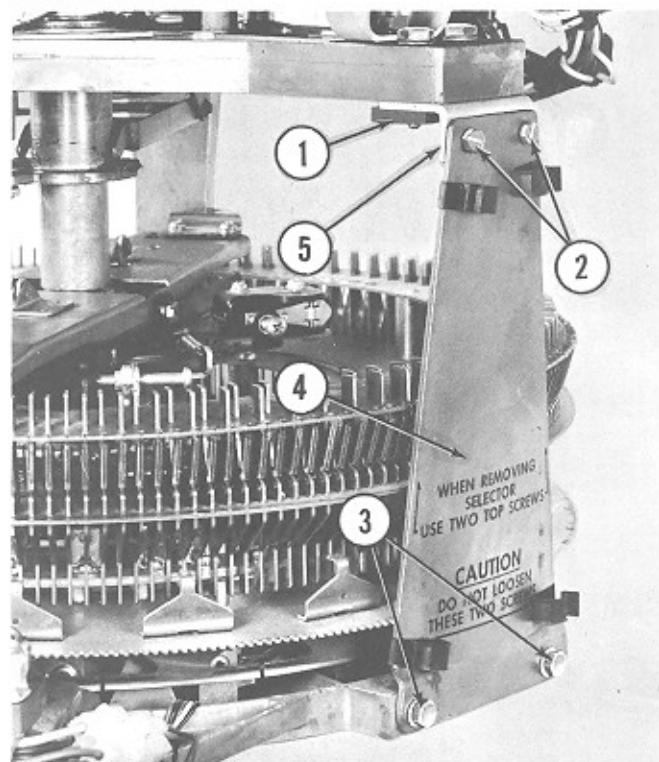


FIG. 26. ELECTRIC SELECTOR ADJUSTMENT - 2800

1. Tapping Plate	117243
2. Screw, 10-32 x 1/2" Hex Hd.	73793-118
3. Screw, 10-32 x 1/2", Hex Hd.	73793-118
4. Silk Screen & Support Plate Assy.	68799
5. Bracket, Support Plate	117242

(3) When an Electric Selector Assembly must be exchanged on a 200 selection phonograph, the following procedure should be used:

(a) Mount the Electric Selector in accordance with the steps described in paragraph (2) above to the point where the assembly is centered and the two front mounting screws are loose. Loosen the two bottom screws (Fig. 26, Item 3) which will permit the selector assembly to shift in the elongated mounting holes. Manually turn the Record Carrier until H-1 record compartment is indexed at the left hand Record Lift Arm. Going to the rear of the

phonograph, the Tip and Mounting Bracket, on the selector Crank Arm which engages the inner Selector Pins will be visible to the left of the rear support plate as shown in (Fig. 27, Item 1). While in this position the Electric Selector Assembly may be turned in either direction on its mounting to locate H-1 Selector Pin (Item 2) to the right of the Tip (Item 1) on the Selector Crank Arm. The tip should be approximately on the center line between H-1, the inner pin and H-2 the outer pin, as shown at (Item 3). Maintain this alignment and tighten the lower mounting screws (Fig. 26, Item 3) in the rear support plate. Continue by following the directions under paragraph (2) for centering the Electric Selector and tighten all mounting screws, checking to make sure that the centering shaft will slide freely in and out of the main shaft. Following the installation of a replacement Electric Selector it may be necessary to readjust the Selector Crank Arm Actuating Screw, the Kick-Off Screw and possibly the Selector Crank Clearance and Cancel Lever. These adjustments will be found by referring to the Table of Contents on Page 1 under the heading, Index to Adjustments.

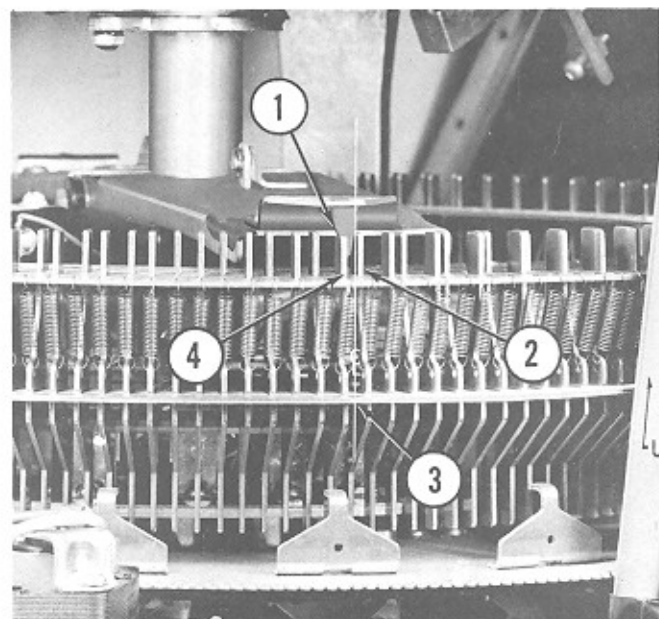


FIG. 27. ELECTRICAL SELECTOR ADJUSTMENT - 2800

1. Tip & Mounting Bracket Assy., Inner	110936
2. Selector Latch Pin, H-1	110941
3. Center Line, Location of Tip (Item 1)	
4. Selector Latch Pin, H-2	110942

i. CENTERING OF THE 100 SELECTION ELECTRIC SELECTOR

(1) Centering of the Electric Selector Assembly is normally not required if the original unit is retained with its changer. The assembly may be removed by disconnecting all plugs and removing three screws, one of which is shown in (Fig. 28, Item 3). The Guide Plate (Item 2) held by the Screws (Item 5) should not be loosened. However, where Electric Selector Assemblies are interchanged the three Guide Plates, one of which is shown in (Fig. 28,

Item 2), should be loosened. The Assembly should be loosely mounted on the Studs (Item 1) so that the mounting surfaces make contact. Manually rotate the record carrier until D-5 record compartment is indexed over the left hand record lift arm. Insert the Centering Shaft (Fig. 28, Item 4) or a No. 2 Phillips Screw Driver, through the center bushing as shown and into the main shaft. Turn the Electric Selector Assembly to locate D-5 selector pin to the right of the Tip (as viewed from the rear) (Fig. 27, Item 2) on the selector crank arm. The tip should be approximately on the center line between D-5 and D-6 the outer pin. Tighten the Screws (Fig. 28, Item 5) in the three alignment plates and the three Mounting Screws (Item 3). Check the selector crank arm adjustments and check for correct selections.

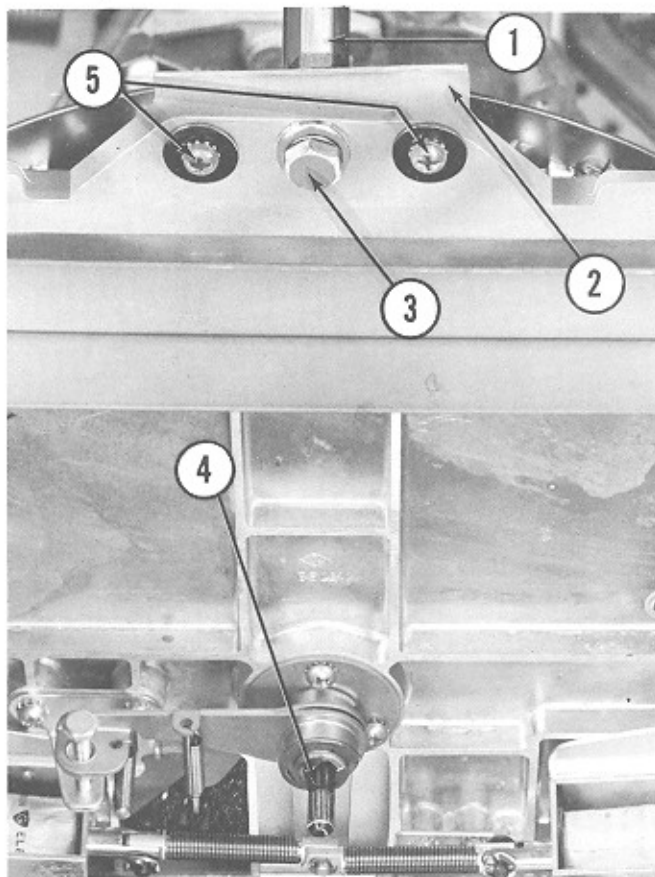


FIG. 28. CENTERING OF THE 100 SELECTION ELECTRIC SELECTOR - 2810

1. Stud (3)	115782
2. Guide, Selector Mounting Stud (3)	61850
3. Screw, 1/4 - 20 x 1", Hex Hd.	73793-150
4. Centering Shaft	69247
5. Screw, 8-32 x 3/4", R.H.	73533-40

4. RECORD CHANGER ADJUSTMENTS

a. SELECTOR CRANK ARM CLEARANCE ADJUSTMENT

The tips of the Selector Crank Arms should clear the selector pins, when in their normal latched position by 1/16" to 1/8" as shown in Fig. 29,

Item 1. Set the Record Loading Lever (Fig. 30, Item 1) in "LOAD" position and release eight selector pins spaced evenly around the assembly. The tips of the Selector Crank Arms should clear the released pins. Should adjustment be required turning the adjusting screw (Fig. 29, Item 5) will raise or lower the arms. The Model 2810 has this adjusting screw in the same location, but it is adjusted from the top side.

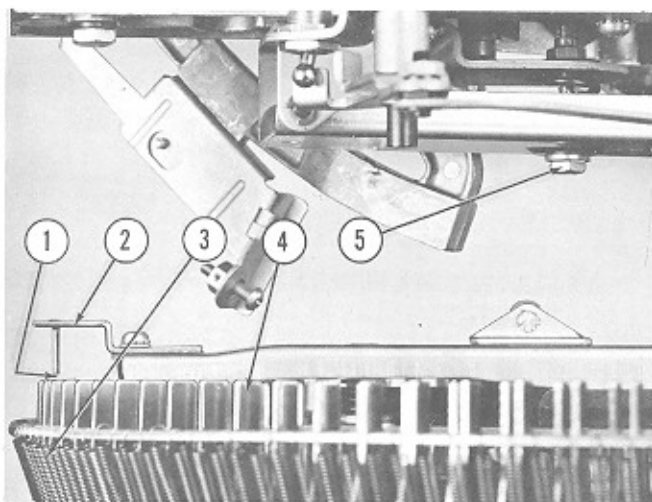


FIG. 29. SELECTOR CRANK ARM CLEARANCE ADJUSTMENT

1. Dimension, 1/16" to 1/8"	
2. Tip & Mounting Bracket Assy., Outer	110930
3. Spring	110480
4. Selector Latch Pin, Outer	110942
5. Screw, Crank Arm Clearance Adjustment-2800	73793-124
2810	73793-125

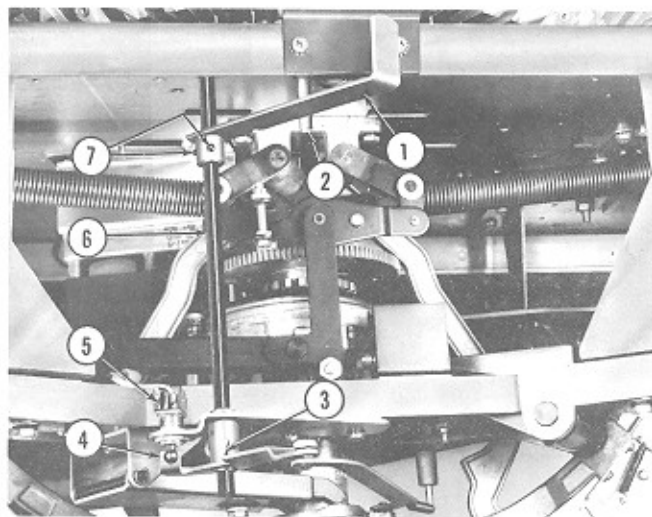


FIG. 30. RECORD LOADING LEVER ADJUSTMENT

1. Release Lever & Hub Assy.	120655
2. Pin, Release Lever Stop	65516
3. Tab, Actuator Arm & Hub Assy.	68559
4. Tab, Actuator Arm & Hub Assy.	68559
5. Toggle Switch	119785
6. Shaft, Selector Crank Release - 2800	68558
2810	115776
7. Screw, 8-32 Socket Head	73511-29

b. RECORD LOADING LEVER

(1) The Record Loading Lever (Fig. 30, Item 1) mounted at the front center of the chassis mounting plate is used to disconnect the changer motor circuit and to raise the selector crank arms to a position where they will clear any released selector pin, thereby permitting servicing of the phonograph without cancelling selections which may have been made. Should it be necessary to service the phonograph while a record is in play position, the Record Loading Lever should be moved to the LOAD position, the record playing allowed to trip and return to the record carrier before attempting to turn the record carrier.

(2) The Release Lever (Fig. 30, Item 1), held to the Shaft (Item 6) by the Set Screws (Item 7), should be positioned so that the Toggle Switch (Fig. 30, Item 5) will be actuated in either direction by the Tabs (Fig. 30, Items 3 and 4) on the Actuator Arm and Hub Assembly with minimum clearance between the switch lever and actuator tabs.

c. CANCEL ARM ADJUSTMENT

Release any selector pin and allow the mechanism to advance in its cycle until the roller (Fig. 31, Item 2) on the cancel lever is on the peak of the cancel lobe (Fig. 31, Item 1) on the main cam as shown. Stop the mechanism at this point by turning off the service switch. The Selector Pin should be reset with 1/64" to 1/32" break between the head of the adjusting screw (Item 5) and the washers under it as shown at Item 4. The Adjusting Screw (Item 5) may be set to provide the correct clearance. After cancellation the cancel lever is returned to its normal position with the Roller (Item 2) held against the cam by the Return Spring (Item 3).

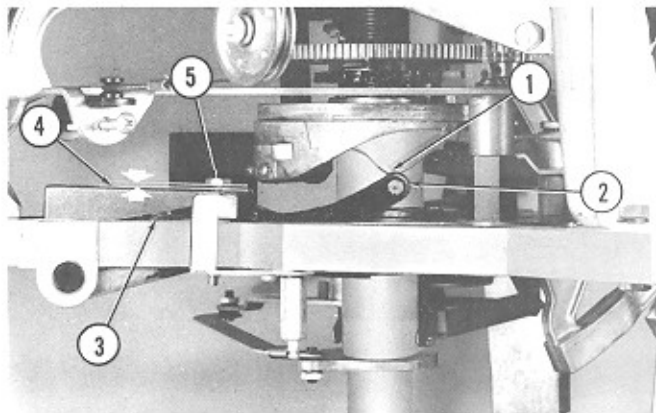


FIG. 31. CANCEL LEVER ADJUSTMENT

- | | |
|---|-----------|
| 1. Point of Maximum Actuation, Cancel Lobe | |
| 2. Roller, Cancel Lever, Hub & Roller Assy. | 59513 |
| 3. Spring, Cancel Arm Return | 65809 |
| 4. Dimension, 1/64" to 1/32" | |
| 5. Screw, 10-32 x 1-3/4", Hex Hd. | 73793-125 |

CAUTION!

Do not over-adjust: Avoid excessive strain against the stops.

d. RECORD LIFT ARM RETRACTED ADJUSTMENT

The Record Lift Arms are driven down by a lobe on the Main Cam (Fig. 32, Item 1) driving against the roller on the Link and Lever Assembly (Fig. 32, Item 5). To adjust the lift arm down position, let the mechanism stop in its normal rest position and turn the service switch off. Loosen the Set Screw (Fig. 32, Item 4) and the Lock Nut (Item 3). Turn the Adjusting Screw (Item 2) in to lower both arms. They should bear against their respective stops (Fig. 33, Item 1) with sufficient tension to assure bottoming after each cycle. Tighten the Lock Nut (Fig. 32, Item 3) and the Set Screw (Item 4).

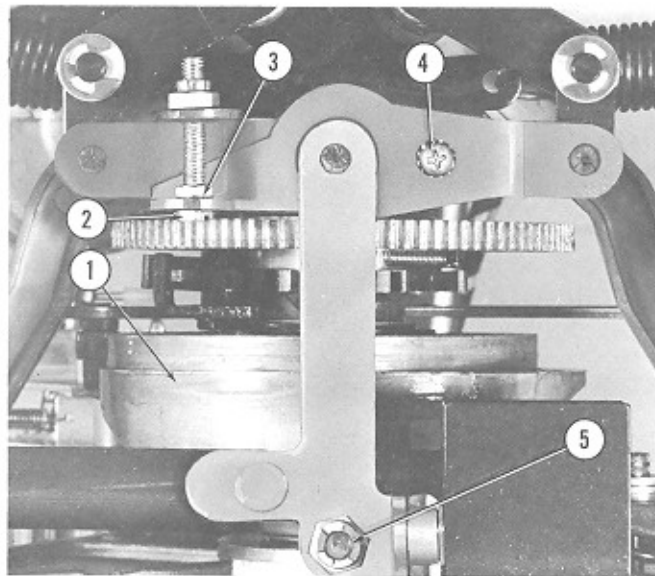


FIG. 32. RECORD LIFT ARM RETRACTED ADJUSTMENT

- | | |
|-----------------------------------|-----------|
| 1. Main Cam & Bushing Assy. | 62792 |
| 2. Screw, 10-32 x 1-1/4", Hex Hd. | 73660-161 |
| 3. Nut, 10-32, Special | 73785 |
| 4. Screw, 8-32 x 1/4", R.Hd. | 73533-34 |
| 5. Link & Lever Assy., Record Arm | 59599 |

e. RECORD LIFT ARM BRACKET AND ROLLER ASSEMBLY

The two Bracket and Roller Assemblies, one of which is shown in Figure 34, Item 3, are the basis for the indexing procedure and are located on the chassis mounting plate by means of an assembly fixture, after which they are painted in line. The outline thus formed provides a reference for re-locating the bracket should they be moved for any reason.

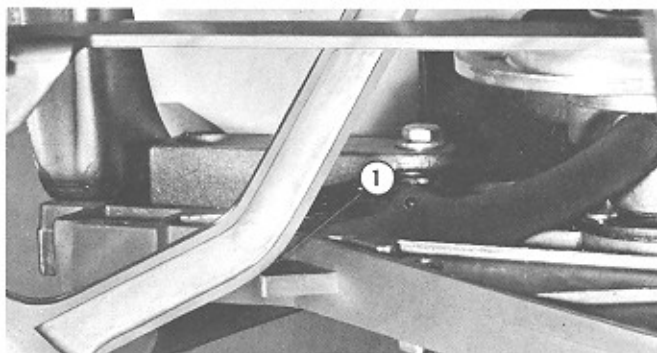


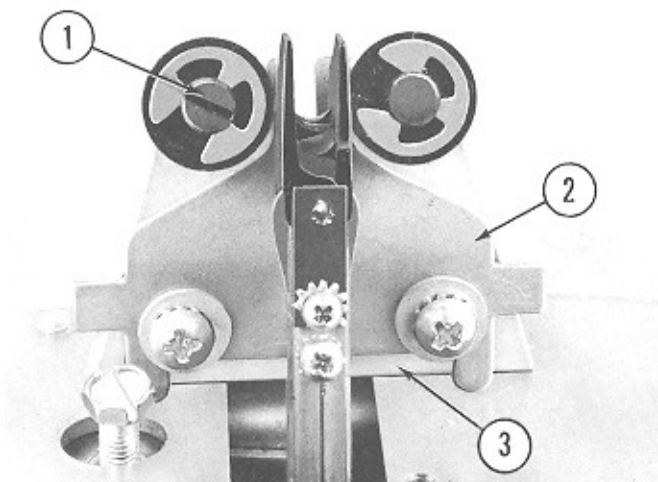
FIG. 33. RECORD LIFT ARM RETRACTED ADJUSTMENT

1. Point of Contact with Sufficient Tension

f. ROLLER GUIDE - RECORD LIFT ARMS 2800

(1) The Roller Guides for the Record Lift Arm spring loaded guide tips are mounted on the Bracket and Roller Guide Assembly (Fig. 34). When the arms are down the Guide Tips are held straight in line and centered between the Guide Rollers by the adjustable Slotted Plate (Fig. 34, Item 2).

(2) The Eccentric Stud (Fig. 34, Item 1) should be adjusted to provide .003" to .006" clearance between the nylon rollers and the guide tips at the pivot point.

FIG. 34. BRACKET & ROLLER GUIDE ASSY.
LIFT ARM GUIDE - 2800

1. Eccentric Stud, Lift Arm Guide	116831
2. Plate, Lift Arm Guide	66182
3. Bracket & Roller Assy., Lift Arm Guide (2)	116837

g. LIFT ARM GUIDE TIPS ADJUSTMENT 2800

Advance the changer mechanism in its cycle to the point where the record arm spring loaded Guide Tips (Fig. 35) clear the upper edge of the record separators and stop the mechanism by turning off the service switch. The spacing between the

Guide Tips should be $7/16"$ as shown in Fig. 35, Item 3. Should it be necessary to increase this dimension, the tabs (Item 2) on the Nylon Guide Tips may be scraped or filed. Advance the mechanism to play position and turn off the Service Switch. Lower and raise the Lift Arm manually. Check to see that the Guide Tips leave the Guide Rollers with no bind and stand straight entering the record compartment. Should they run off they may be straightened by adjusting the Stop (Fig. 35, Item 1). Both arms should be checked for correct Guide Tip and Roller Adjustment.

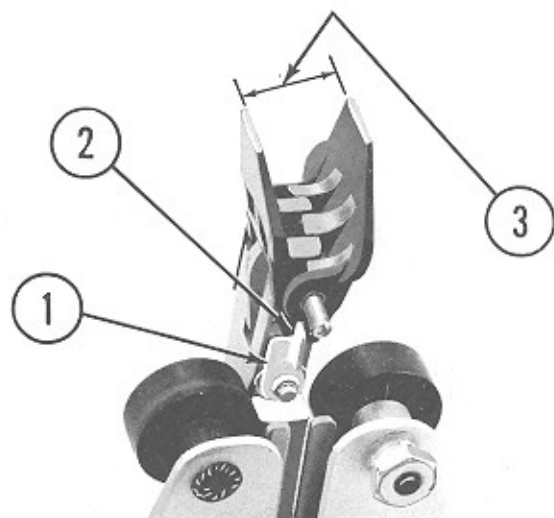


FIG. 35. LIFT ARM GUIDE TIP ADJUSTMENT - 2800

1. Stop, Guide Tip	65526	
2. Tab, Nylon Guide Tip, R.H.	65730	
	L.H.	65731
3. Dimension, $7/16"$		

h. ROLLER GUIDES - RECORD LIFT ARMS - 2810

The stationary Guide Roller (Fig. 36, Item 3) is factory set with the aid of an assembly fixture after which it is painted in line, providing a fixed position for the Record Lift Arm. The adjustable Mounting Bracket (Fig. 36, Item 1) should be set at the center of its adjusting range and the lift arm checked for smooth running between the Guide Rollers for the full length of travel. The spring tension on the Bracket and Roller (Fig. 36, Item 2) may be varied by moving the Bracket (Item 1). Both lift arms should be checked for smooth action.

i. RECORD LIFT ARM HEIGHT ADJUSTMENT

The record lift arm height and record track stop bracket adjustment is factory set by means of a Disc (Fig. 39, Item 1) Part No. X49831. The fixture provides a dimension of approximately $3-11/32"$ from the outside of the $33-1/3$ pilot to the end of the record lift arm and the same dimension to the

Record Track (Fig. 39, Item 3). However, the following method may be used to arrive at a satisfactory adjustment when the adjusting fixture is not available.

Stop the mechanism in play position with a normal size record (6-7/8" diameter) clamped on the turntable. Back out the Adjusting Screw (Fig. 37, Item 8) until the record lift arm drags on the edge of the record. Make a scribe mark on the head and turn the screw in two full turns. The clearance between the edge of the record and the end of the lift arm should be 3/64". Both lift arms should be checked.

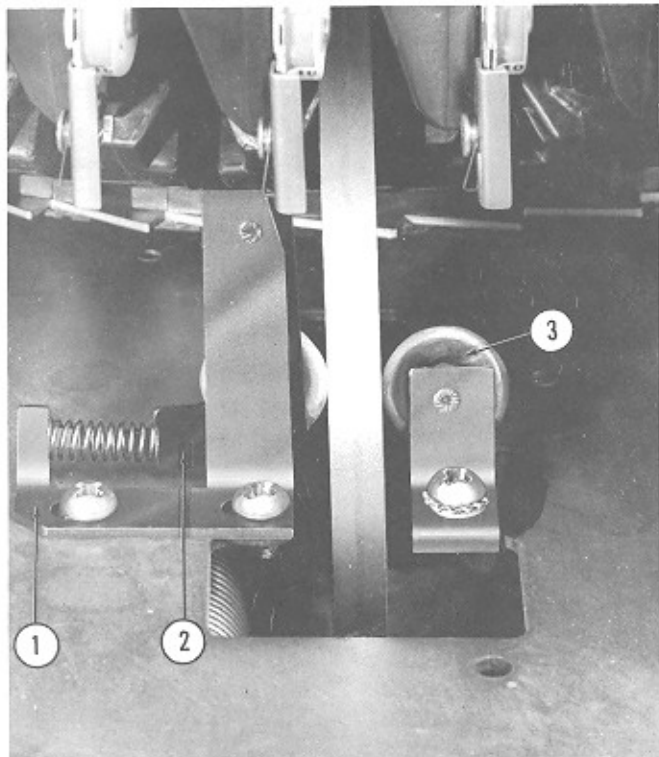


FIG. 36. ROLLER GUIDES, RECORD LIFT ARM - 2810

- | | |
|------------------------------------|-------|
| 1. Mounting Bracket & Pin Assy. | 60657 |
| 2. Pivot Arm & Roller Assy. | 60626 |
| 3. Mounting Bracket & Roller Assy. | 59704 |

j. RECORD LIFT ARM CENTERING ADJUSTMENT

(1) The record lift arms on the two hundred selection mechanism differ from those on the one hundred selection mechanism in that they are free of the guide rollers until the arms are nearly at maximum height, at which time the Ramp (Fig. 37, Item 1) on the lower end of the lift arm, contacts the Rollers (Fig. 37, Item 3) on the spring loaded bracket mounted on the underside of the chassis mounting plate. The ramp should enter and leave the rollers freely with a minimum clearance of .005" between the Rollers and Ramp as indicated at Figure 37, Item 4. This dimension may be adjusted, while the lift arm is in the raised position, by

loosening the screw in the hex head Eccentric Stud (Fig. 37, Item 2) and turning the stud for correct clearance. Tighten the screw and manually lower and raise the lift arm to check for freedom of action.

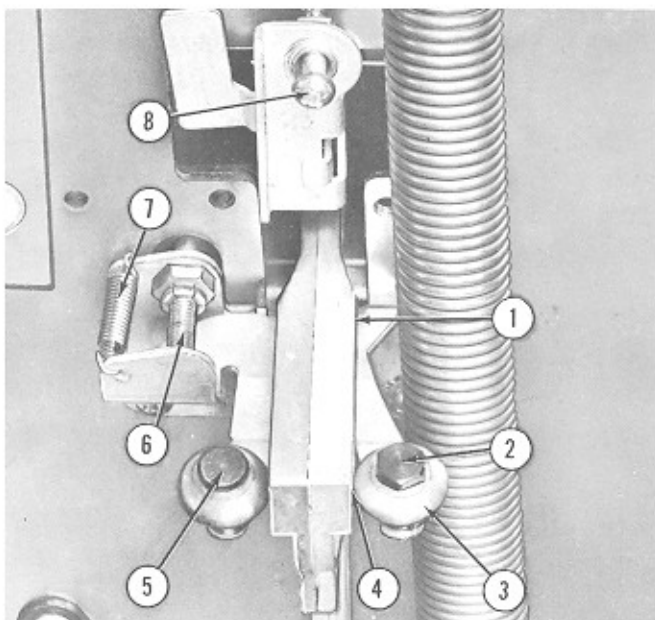


FIG. 37. LIFT ARM ADJUSTMENT - 2800

- | | |
|---------------------------------|-----------|
| 1. Ramp, Record Lift Arm | |
| 2. Eccentric Stud | 65986 |
| 3. Roller (2) | 65989 |
| 4. Dimension, .005" Clearance | |
| 5. Bracket & Roller Assy., L.H. | 65885 |
| 6. Screw, 10-32 x 1-1/4", Hex | 73660-161 |
| 7. Spring | 65958 |
| 8. Screw, 8-32 x 3/4", R. Hd. | 73503-91 |

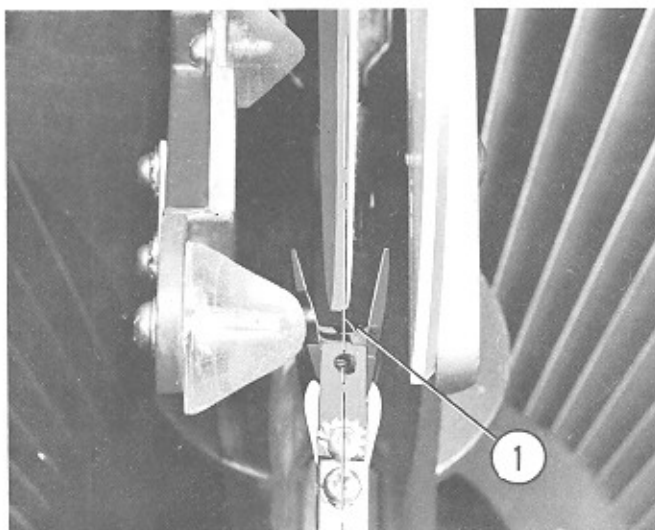


FIG. 38. RECORD LIFT ARM CENTERING

- Center Line

(2) Install a perfectly flat record in the record carrier and select either side. When in play position the record lift arm should center with the record as shown in Figure 38, Item 1. Should adjustment be required, the Screw (Fig. 37, Item 6) which is accessible from the top side of the chassis shelf,

may be set to center the lift arm with the record. Both lift arms should be checked for centering.

(3) The one hundred selection record changer lift arms are in contact with their guide rollers at all times. The above alignment has been factory set by forming and should need no adjustment.

k. RECORD TRACK STOP BRACKET ADJUSTMENT

The record track stop brackets are adjusted at the factory by means of the Disc (Fig. 39, Item 1) Part No. X49831, which provides a dimension of approximately 3-11/32" from the outside of the 33-1/3 pilot to the record track. However, the following method may be used to adjust the stop brackets when the adjustment fixture is not available.

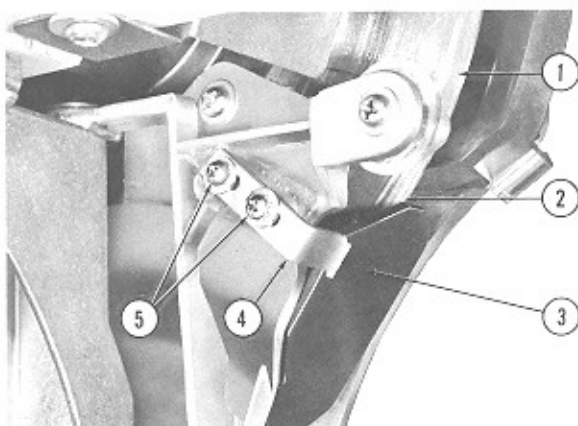


FIG. 39. RECORD TRACK STOP BRACKET ADJUSTMENT

1. Adjustment Fixture - Production Only	X-49831
Plastic Service Disc	121559
2. Point of Contact	
3. Record Track	59425
4. Stop Bracket	122840
5. Adjusting Screws, 4-40 x 5/16", R. Hd.	73533-3

Stop the mechanism in play position with a normal size (6-7/8" diameter) record clamped on the turntable. Loosen the Adjusting Screws (Fig. 40, Item 5) and insert a new Dime (Fig. 40, Item 2) between the Record Track (Item 3) and the Bracket (Item 4). Slide the bracket up until the record track contacts the edge of the record as shown at (Item 1). Tighten the Adjusting Screws. Both Stop Brackets should be set to provide .0455" clearance. The new Dime will measure approximately .044".

l. BACK STOP PAWL ADJUSTMENT

The two back stop pawls are located on top of the chassis mounting plate to the right and left of center at the rear. Each of the back stop pawls will be adjusted independently. However, the adjustment procedure will be the same in both cases. The function of the Back Stop Pawls (Fig. 41, Item 3) is

to index the correct record compartment, as selected, with one or the other of the two record lift arms. By latching into the teeth of the index wheel they prevent the record carrier from backing up when the changer motor reverses direction. The record lift arms should center with any record compartment within 1/32" tolerance, as indicated in Fig. 42 of the two hundred selection record carrier. Should adjustment be required on either back stop pawl, move to the rear of the phonograph and loosen the two Mounting Screws (Fig. 41, Item 4) which hold the back stop pawl to the chassis mounting plate. Note: As viewed from the rear, the right hand stop pawl should always index record compartments with the right hand record lift arm and the left hand pawl should always index record compartments with the left hand record lift arm. After loosening the mounting screws holding the particular back stop pawl requiring adjustment, manually rotate the record carrier until any record compartment is in alignment with the corresponding record lift arm as shown in Figure 42. Carefully maintain this alignment and set the Back Stop Pawl (Fig. 41, Item 3) against the adjacent tooth on the index wheel and to a depth of 1/32" to 1/16" below the tip of the tooth as shown at Figure 41, Item 2. Tighten the mounting screws and check the alignment of the record lift arm with at least six record compartments evenly spaced around the record carrier. Whenever either record lift arm is centered with any record compartment the opposite lift arm should always center with a record separator which acts as a stop for that arm while the indexed arm delivers a record.

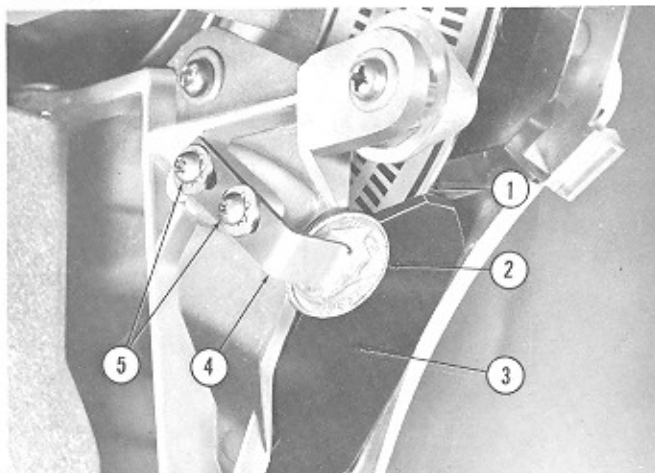


FIG. 40. RECORD TRACK STOP BRACKET ADJUSTMENT

1. Point of Contact, Standard Size Record, 6-7/8" Diam.	
2. Gauge, New Dime	
3. Record Track	59425
4. Stop Bracket	122840
5. Adjusting Screws, 4-40 x 5/16", R. Hd.	73533-3

m. ACTUATING SCREW ADJUSTMENT, CARRIAGE SWITCH

The Carriage Switch (Fig. 43, Item 2) is

actuated by the Screw (Fig. 43, Item 3) when the selector crank arm is stopped by any released selector pin. The closing of the carriage switch energizes the changer motor reversing relay (RY-6) on the junction box to reverse the direction of the motor armature. This results in the engagement of the driving pawl and movement of the main cam to release the record lift arms. Since the record must be properly indexed before closing the reverse relay (RY-6) the actuating screw (Fig. 43, Item 3) must be adjusted for correct timing with respect to the back stop pawl engagement.

NOTE: Before making next adjustment, be sure Electric Selector is centered as per Electric Selector Centering Instructions.

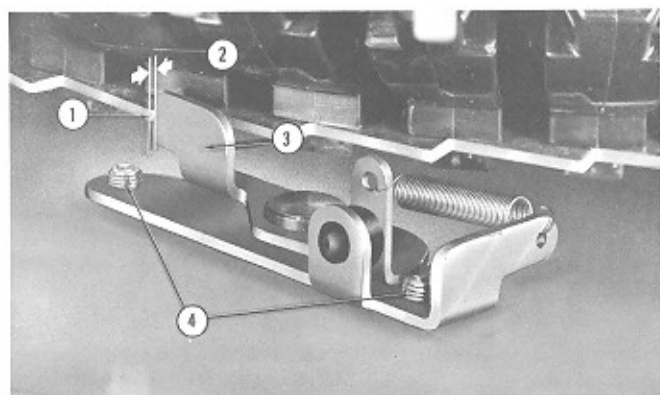


FIG. 41. BACK STOP PAWL ADJUSTMENT

- | | |
|--|----------|
| 1. Tip of Tooth, Index Wheel, 2810 | 122081 |
| 2. Dimension, 1/32" to 1/16", Tip of Tooth to Face of Pawl | |
| 3. Pawl, Back Stop Pawl Assy., 2810 | 122084 |
| 4. Screw, 10-32 x 5/16", R. Hd. | 73676-47 |

To adjust the Carriage Switch with power on the phonograph, turn the service switch off and release an odd number (inner) selector pin. Pin No. H7 is suggested for making this adjustment on the Model 2800 while D9 is convenient on the Model 2810. Manually rotate the record carrier until the selector crank arm engages the released pin. Continue by manually turning the changer motor shaft (extending through the lower housing of the motor) clockwise until the Carriage Switch (Fig. 43, Item 2) closes, energizing RY-6 (the reverse relay). As viewed from the rear of the mechanism, the right hand back stop pawl should have engaged the correct tooth on the index wheel, aligning the record selected with the right hand record lift arm. The Carriage Switch should actuate just as the pawl drops in the tooth from zero to 3/64" maximum overtravel, as shown in Figure 44, Item 1. By adjusting of the Actuating Screw (Fig. 43, Item 3) the time of back stop pawl engagement may be retarded or advanced with respect to the closing of the Carriage Switch. Check this adjustment at six positions evenly spaced around the selector pin assembly.

Check the left hand back stop pawl, as viewed from the rear of the phonograph, by releasing an outer (even number) pin. The timing between back stop pawl engagement and reverse relay operation should be identical with the right hand pawl. If not, do not adjust the carriage switch actuating screw since it was adjusted to time the right hand pawl with the inner pins. The tip and mounting bracket assembly, which engages the outer pins, may be adjusted by loosening the mounting screws holding it to the selector crank arm. Moving the tip and bracket assembly will time the carriage switch action. This adjustment should be checked in six positions spaced evenly around the selector pin assembly. The maximum overtravel allowed between the back stop pawl and the correct tooth on the index wheel at the instant the Carriage Switch closes is 3/64".

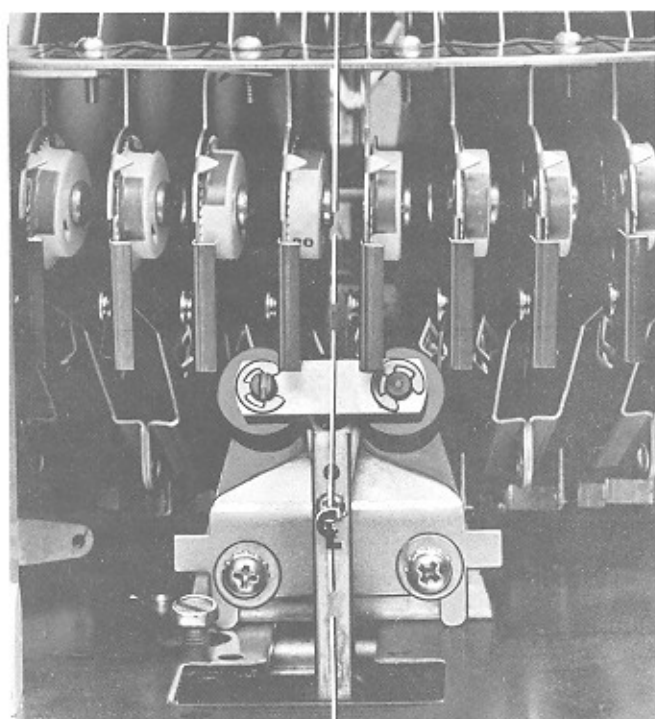


FIG. 42. BACK STOP PAWL ADJUSTMENT

1. Center Line for Adjustment

NOTE: When checking the carriage switch adjustment on the 100 selection mechanism the maximum overtravel between the back stop pawl and the correct tooth on the index wheel at the instant the carriage switch closes may be 1/16" as shown in Figure 44, Item 1.

n. STOP SCREW ADJUSTMENT

The Stop Screw (Fig. 45, Item 2) serves to prevent momentum from driving the record carrier into the wrong selection. Check the stop screw setting by turning the service switch off and releasing an inner (odd number) selector pin. Manually turn the record carrier until the selector crank

arm engages the released pin and the reverse relay actuates. Continue by turning the changer motor shaft clockwise until the Stop Screw (Fig. 45, Item 2) bears against the Stop Bracket (Fig. 45, Item 1). The overtravel between the right (as viewed from the rear of the phonograph) back stop pawl and the correct tooth on the index wheel should be from $1/16''$ to $3/32''$ as shown in Figure 44, Item 1.

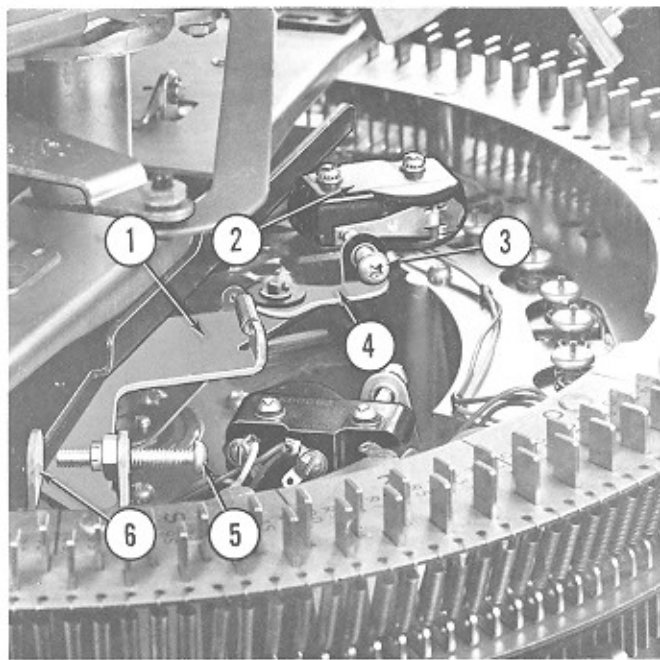


FIG. 43. ACTUATING SCREW ADJUSTMENT, CARRIAGE SWITCH

1. Selector Shaft Assembly	115669
2. Carriage Switch	110557
3. Screw, 10-32 x 1", R. Hd.	73502-95
4. Switch Lever & Stop Nut Assy.	110937
5. Screw, 8-32 x 1-1/4", R. Hd.	73503-95
6. Stop Tab, Mounting Plate & Bushing Assy.	110946

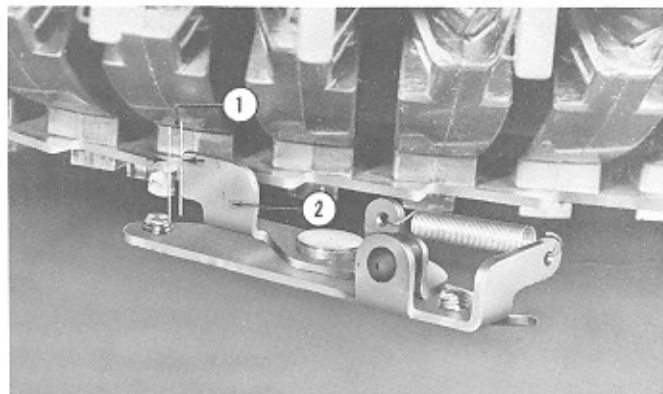


FIG. 44. ACTUATING SCREW ADJUSTMENT, CARRIAGE SWITCH

1. Dimension, $1/32''$ to $3/64''$	
2. Pawl, Back Stop Assy., 2810	122084

o. KICK-OFF SCREW ADJUSTMENT

Adjustment of the Kick-Off Screw (Fig. 46, Item 1) may be accomplished with the Adjusting Screw in a convenient position and a tooth on the

index wheel held firmly against the left hand back stop pawl, as viewed from the rear of the phonograph. The Tip (Fig. 46, Item 3) which contacts the inner selector pins should be on the center line between the outer pin (Fig. 46, Item 4) and the next adjacent inner pin (Item 2) as shown in Figure 46. This alignment should be checked in six positions evenly spaced around the selector pin assembly. The alignment of the tip which contacts the outer row of selector pins should be checked while firmly holding a tooth on the index wheel against the right hand back stop pawl, as viewed from the rear. The Tip (Fig. 46, Item 3) should center between adjacent pins as shown. The final test should be that selector pins adjacent to either selector crank arm tip should, when selected, release with no interference from either tip.

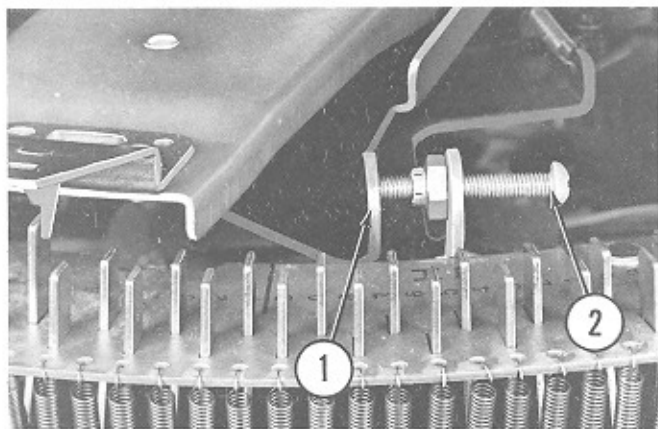


FIG. 45. STOP SCREW ADJUSTMENT

1. Stop Tab, Mounting Plate & Bushing Assy.	110946
2. Screw, 8-32 x 1-1/4", R. Hd.	73503-95

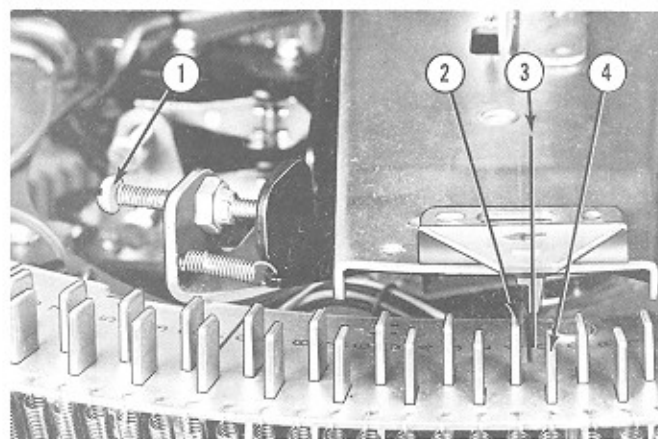


FIG. 46. KICK-OFF SCREW ADJUSTMENT

1. Screw, 8-32 x 1-1/4", R. Hd.	73503-95
2. Selector Latch Pin, Inner	110941
3. Center, Line of Bracket Tip	
4. Selector Latch Pin, Outer	110942

p. TRANSFER SWITCH ADJUSTMENT

The Transfer Switch Assembly (Fig. 47, Item 3) mounted at the rear of the changer mechanism is in its normal rest position. The two contact

groups should be normally closed in the right hand position as viewed from the rear of the phonograph. The contacts are held closed by the Switch actuator (Fig. 47, Item 1) and the Over-center Spring (Item 2). The counter clockwise movement of the Main Cam releases the Switch Actuator Lever (Item 4) and the contacts will then close to the left as viewed from the rear of the phonograph. To adjust the Transfer Switch, release any selector pin and let the mechanism advance in its cycle until the Roller (Fig. 47, Item 7) has passed the Cam Lobe (Item 6). Turn the power off and back out the Adjusting Screw (Item 5) until the insulating stud clears the Switch Actuator (Item 1). Advance the mechanism through its cycle until the Roller (Item 7) is again on the Cam Lobe (Item 6). Stop the mechanism at this point by turning the power off. Turn the Adjusting Screw (Item 5) until the transfer switch is actuated over center by the Toggle Spring (Item 2). The Adjusting Screw should be turned two full turns beyond this point for overtravel. Run the mechanism through several cycles to check for positive switch actuation.

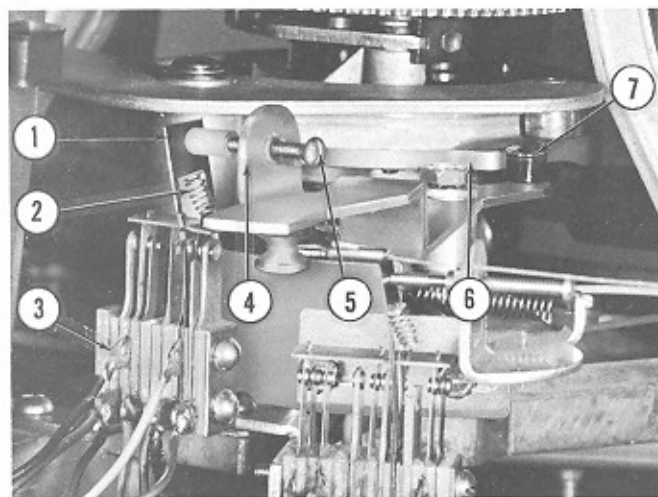


FIG. 47. TRANSFER SWITCH ADJUSTMENT

1. Switch Actuator, Transfer Switch Assy.	123329
2. Spring	123329-A
3. Transfer Switch & Bracket Assy.	123329
4. Actuator Arm Assy., Transfer Switch	113299
5. Screw, 4-40 x 1", R. Hd.	73574-31
6. Lobe on Edge of Main Cam	62792
7. Roller, Actuator Arm Assy.	113299

q. MUTE AND PLAY SWITCH ADJUSTMENT

The Mute and Play Switch (Fig. 48, Item 5) mounted at the rear of the changer mechanism to the right of the transfer switch (as viewed from the rear of the phonograph) is made up of three groups of contacts. The left hand group is arranged as a double pole, single throw switch used for muting both channels of the amplifier, the center group is a single pole, double throw switch which serves to break the power to the changer motor when the mechanism reaches play position and to close the motor circuit to the manual reject switch on the amplifier as well as to the remote reject circuit.

The right hand single pole, single throw switch places a D.C. voltage on the time constant circuit of the automatic level control preventing any build-up in output level during record changing intervals. Figure 49, Item 2, shows the adjustable lobe on the side of the main cam which operates the mute and play switch. The Timing Marks (Fig. 49, Item 1) should be in alignment. Figure 48, Item 1 shows the Stop Plate which should be adjusted as follows: Release any selector pin and let the mechanism advance in its cycle until the Roller (Fig. 50, Item 3) is at the base of the Adjustable Lobe (Item 1). The Stop Plate (Fig. 48, Item 1) should be set to stop the Actuating Lever (Item 4) with a maximum clearance of 1/64" between the roller and the cam surface as shown in Figure 50, Item 2.

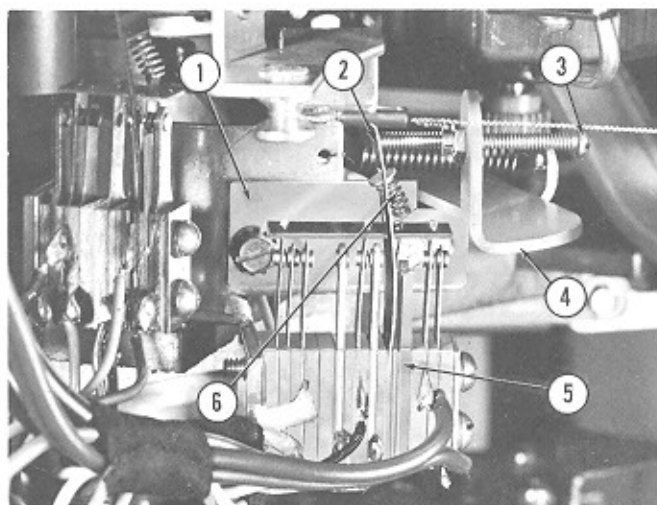


FIG. 48. MUTE AND PLAY SWITCH ADJUSTMENT

1. Stop Plate	62769
2. Actuator, Mute & Play Switch Assy.	123336
3. Screw, 4-40 x 1-1/4", R. Hd.	73574-33
4. Actuator Arm Assy.	124189
5. Mute & Play Switch Assy.	123336
6. Spring,	123336-A

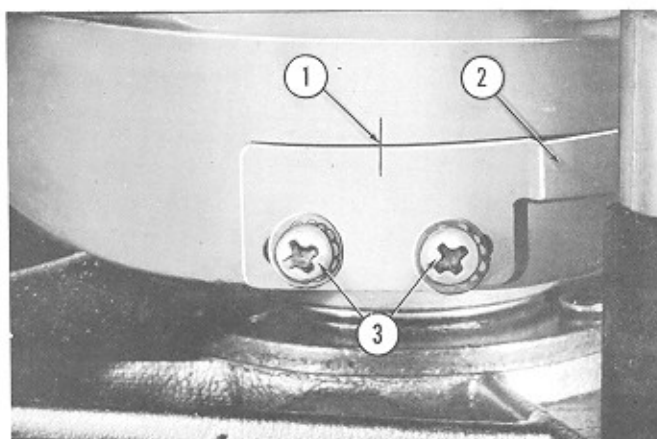


FIG. 49. MUTE AND PLAY SWITCH ADJUSTMENT

1. Timing Marks, Main Cam & Adjustable Lobe	62768
2. Adjustable Lobe	73534-14
3. Screw, 5-40 x 3/8", Bind. Hd.	

To check for correct actuation of the Mute and Play Switch, advance the mechanism in its cycle by manually turning the changer motor shaft counter clockwise, as viewed from the lower end of the motor, until the Roller (Fig. 50, Item 3) has passed over the Adjustable Lobe (Item 1). The spring-loaded Actuating Lever (Fig. 48, Item 4) should drive the Switch Actuator (Item 2) causing the Over-center Spring (Fig. 48, Item 6) to snap the switch contacts to the normally closed position as shown. The Adjusting Screw (Item 3) should be set to provide 1/16" overtravel of the Switch Actuator (Item 2) after the contacts have closed.

Run the changer mechanism through several selection cycles to check for positive mute and play switch operation.

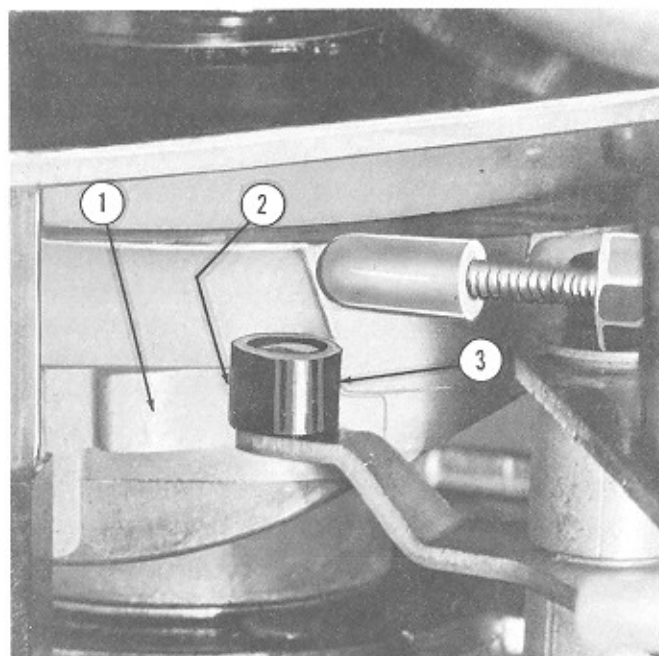


FIG. 50. MUTE AND PLAY SWITCH ADJUSTMENT

- | | |
|---------------------------------------|-------|
| 1. Adjustable Lobe | 62768 |
| 2. Dimension, 1/64" Maximum Clearance | |
| 3. Roller, Actuator Arm Assembly | 62761 |

r. RECORD GUIDE AND SAFETY SWITCH ADJUSTMENT

The Record Guide Assembly (Fig. 51, Item 2) is a pivoted assembly, spring loaded to hold it in alignment with the records as they are delivered to the turntable by the record lift arms. Should a record jam or fail to completely return to the record carrier, the clockwise movement of the record carrier, when searching for the next selection, would cause the record guide assembly to pivot and open the Safety Switch (Fig. 52, Item 1). The Safety Switch wired in the main line power circuit, turns off all operating voltage of the phonograph, but allows the voltage to remain on the lighting circuits. This built-in safety feature prevents record breakage.

The Record Guide Assembly is normally adjusted so that the moulded Guide Plate (Fig. 51, Item 3) is parallel to the Top Support Casting as shown at Items 1 and 4 by the Screw (Item 6). Should any change be made in the setting of the Adjusting Screw (Item 6) then the Safety Switch Actuating Screw (Item 5) should be adjusted. This may be accomplished by backing out the Screw (Item 5) until the Safety Switch (Fig. 52, Item 1) opens. Turn the Adjusting Screw (Fig. 51, Item 5) in until the switch closes plus one to two full turns for overtravel.

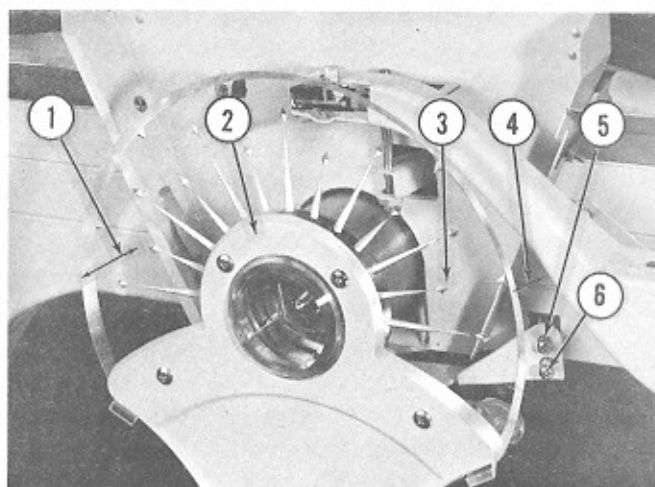


FIG. 51. RECORD GUIDE AND SAFETY SWITCH ADJUSTMENT

- | | |
|---|----------|
| 1. Dimension, Equal to Item 4 | |
| 2. Record Guide Assembly, Front Casting | 123942 |
| 3. Record Guide Plate | 123943 |
| 4. Dimension, Equal to Item 1 | |
| 5. Screw, 6-32 x 1-3/8", R. Hd. | 73800 |
| 6. Screw, 6-32 x 1", R. Hd. | 73656-74 |

s. TURNTABLE ADJUSTMENTS

(1) The spacing between the three Plastic Bearings (Fig. 53, Item 2) mounted into the Plastic Guide Plate and the front end of the Turntable (Item 4) must be held to a dimension of 3/16" to 7/32" for a trouble-free record clamping. To check this dimension (Item 1) it is suggested that a feeler gauge be made from 3/16" plywood or other material cut approximately three by six inches. The feeler gauge should fit in the Dimension (Item 1) with no more than 1/32" clearance. Should adjustment be required, reform the assembly by manually compressing the front and rear casting, if adjusted, check the Record Track (Item 3) for any binds during shifting from left to right and back again to the left.

(2) The two Rollers (Fig. 54, Items 4 and 12) on the Release Arm Assembly should be centered about the Clamp Shaft Spring (Item 9). They may be centered if needed by removing the Turntable Cam Lever Assembly (Item 13) and loosening the Pivot Bracket Mounting Screws (Fig. 55, Item 6). Shift the Bracket (Item 7) to center the rollers and tighten

the screws. Replace the Cam Lever Assembly (Fig. 54, Item 13).

(3) The Record Clamp Levers, in the turntable pilot assembly, should be completely retracted when the phonograph is in the normal rest position. The screw (Fig. 54, Item 14) may be adjusted to retract the clamp levers. Whenever this adjustment is made, always check for clearance between the inner surface of the Cam Lever Assembly (Fig. 54, Item 13) and the back end of the Clamp Shaft (Item 11). There should be a minimum of $1/32$ " clearance with a 33-1/3 R.P.M. record in Play position.

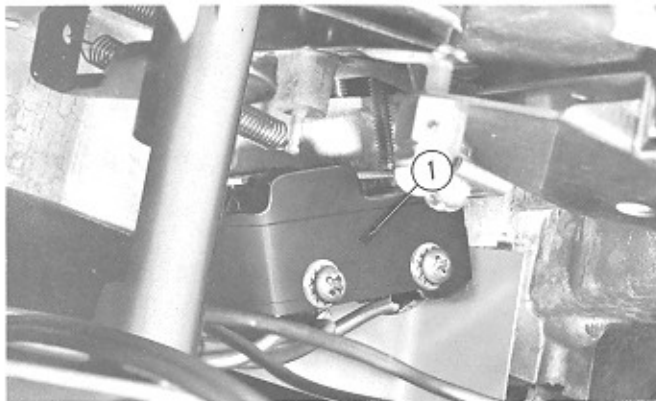


FIG. 52. SAFETY SWITCH

1. Safety Switch

110557

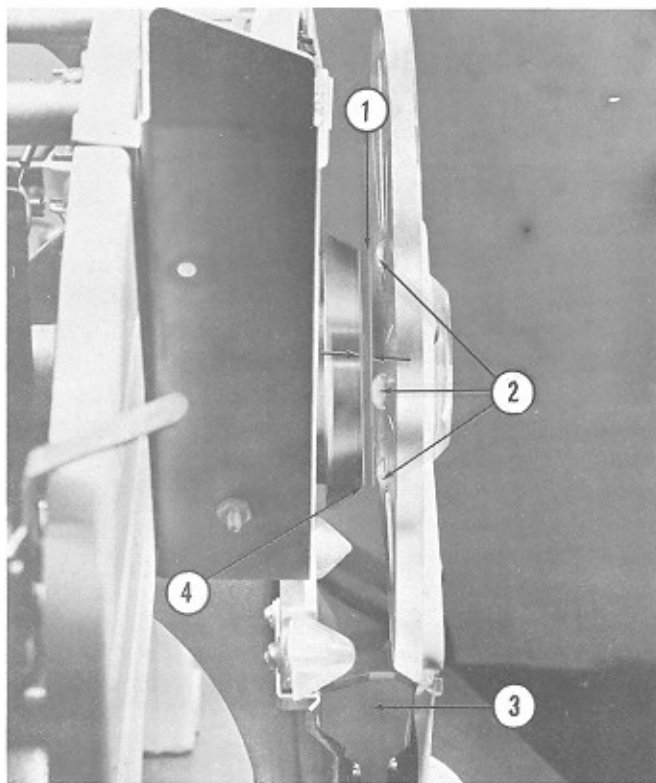


FIG. 53. TURNTABLE ADJUSTMENT

- | | |
|--|--------|
| 1. Dimension, $3/16$ " to $7/32$ " | |
| 2. Plastic Bearing | 123944 |
| 3. Track | 59425 |
| 4. Front Edge of Turntable & Shaft Assy. | 122779 |

(4) The Clamp Plate Assembly (Fig. 54, Item 5) is adjustable to provide the correct travel for the turntable pilot when driven forward by the release arm and also to allow the turntable pilot to completely retract when the mechanism is in its normal rest position. When retracted the tip of the 33-1/3 pilot may be from $1/32$ " outside the turntable to a maximum of $1/32$ " inside the turntable as shown in Figure 56. To check for correct clamp plate adjustment select any 45 R.P.M. record with the large center hole and stop the mechanism when the Roller (Fig. 54, Item 17) is on the peak of the Cam Lobe (Item 16) on the Turntable Release Cam. In this position the record should be centered on the 45 R.P.M. pilot and held lightly against the three Plastic Bearings (Fig. 53, Item 2), which are free floating in the plastic plate of the record guide assembly. The record should be free to turn. Should adjustment be required loosen the large lock nut inside the Spring (Fig. 54, Item 9) and turn the Clamp Plate (Item 5) in or out, as required, on the threaded clamp rod. When properly adjusted tighten the lock nut. Check the position of the 33-1/3 pilot when the mechanism is in its normal rest position as in Figure 56. Select a 33-1/3 R.P.M. record, when in play position the clamp plate must clear the release arm rollers by $1/16$ ".

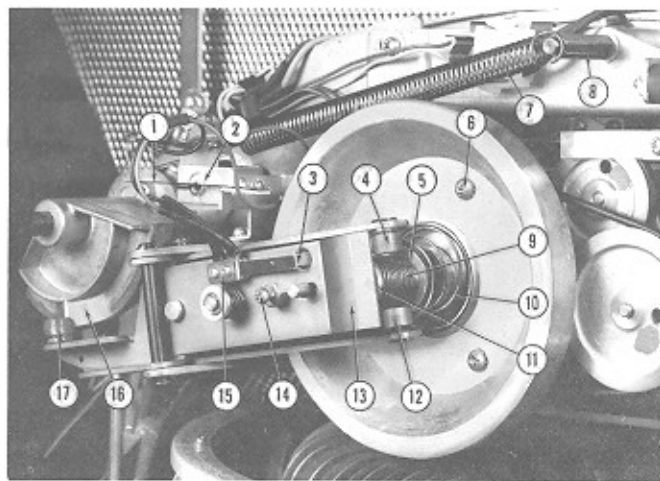


FIG. 54. TURNTABLE ADJUSTMENTS

- | | |
|--|----------|
| 1. Support Bracket & Spring Assy. | 119793 |
| 2. Solenoid Assy. | 119826 |
| 3. Screw, 8-32 x $5/8$ ", R. Hd., Nylon | 74288-25 |
| 4. Roller, Turntable Release Arm Assy. | 119441 |
| 5. Adjusting Plate | 121338 |
| 6. Screw, 8-32 x $1/2$ ", R. Hd. | 73533-38 |
| 7. Spring, Turntable Release Cam | 119425 |
| 8. Spring Pin | 61111 |
| 9. Spring, Clamp Rod | 119423 |
| 10. Spring, Turntable Pilot | 122114 |
| 11. Back End of Clamp Shaft | 119413 |
| 12. Roller, Turntable Release Arm Assy. | 119441 |
| 13. Cam Lever Assy., Turntable Pilot | 119442 |
| 14. Screw, 6-32 x $5/8$ ", R. Hd. | 73503-71 |
| 15. Switch Assy. | 119845 |
| 16. Lobe, Turntable Release Cam | 119429 |
| 17. Roller, Cam Lever Assy., Turntable Pilot | 119442 |

t. TURNTABLE MOTOR ADJUSTMENTS

(1) The Turntable Motor Assembly may be removed from the top support casting if required, by disconnecting the Motor Plug (Fig. 57, Item 1) and the gear shift solenoid Plug (Item 18). Remove the Contact Assembly (Fig. 54, Item 15) from the Cam Lever. Remove the Spring (Fig. 55, Item 2) and unhook the two Springs (Items 1 and 5) from the Cam Lever. Remove the Cam Lever by removing the Retaining Ring (Fig. 55, Item 4) and the Shaft (Item 3). Remove the 45 R.P.M. drive belt from the Drive Pulley (Fig. 57, Item 10) and off over the flywheel. Remove the three screws which mount the flywheel to the turntable pulley, one of which is shown in (Fig. 54, Item 6). Let the flywheel hang on the turntable pilot shaft. Slip the 33-1/3 R.P.M. drive belt off the turntable drive pulley. Pull the drive belt through the center hole of the flywheel. Compress the Cup Washer and the Spring (Item 10) and the Clamp Shaft (Item 11) together and work the drive belt over the end of the clamp shaft. Pull it back through the flywheel. The Turntable Motor Assembly may then be removed by removing the Spring (Item 7) the Spring Anchor Pin (Item 8) and three screws through the holes shown in Figure 57, Items 2, 11 and 14. .

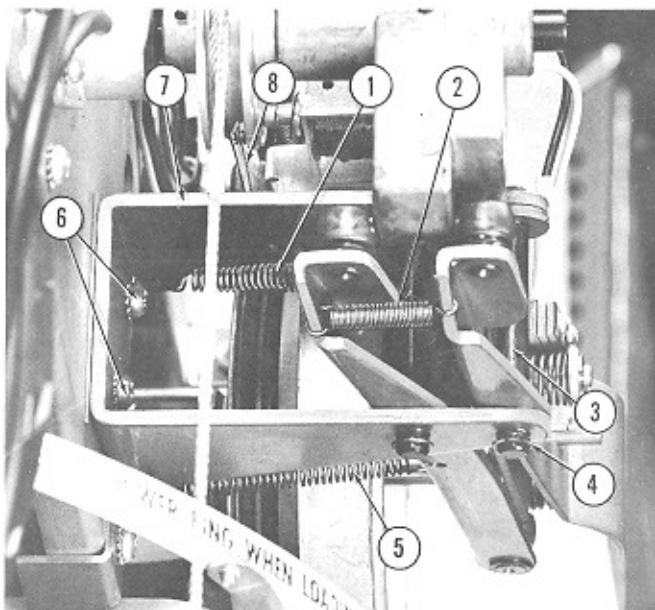


FIG. 55. TURNTABLE ADJUSTMENT

1. Spring, Turntable Release Arm	119426
2. Spring	59710
3. Shaft	59400
4. Retaining Ring	73728-25
5. Spring, Turntable Release Arm	119426
6. Screw, 8-32 x 5/16", R. Hd.	73533-35
7. Pivot Bracket	119433
8. Contact Assy.	119784

(2) The Motor is mounted on the Plate (Fig. 57, Item 17) by three screws, one of which is shown in Figure 58, Item 5. No adjustment is needed between motor and mounting bracket. How-

ever, the Motor Support Bracket (Fig. 58, Item 7) should be set to Zero clearance with the motor housing as shown at Item 6.

(3) The Thrust Bearing (Fig. 58, Item 1) should be adjusted to .002 clearance between the ball and the Delrin pad as shown at Item 8.

(4) The turntable drive pulleys are mounted to the gear shafts by the Allen Set Screws (Fig. 57, Item 7). A .005" feeler gauge should be used to provide the clearance between Drive Pulley and Bearing during installation. The 45 R.P.M. Pulley (Item 10) must clear the 33-1/3 Pulley (Item 6). A shim washer has been installed between the 45 R.P.M. pulley and the bearing to provide clearance between the pulleys and to maintain alignment with the turntable pulley.

(5) When the motor and gear assembly is removed from the top support casting as shown in Figure 57, the engagement of the 45 R.P.M. Delrin Drive Gear (Item 15) with the Worm Gear (Item 16) may be adjusted as follows: Loosen the Lock Nut (Item 9). Place the Fixture (Item 12), (Part No. 122808) on the Stud (Item 8) hold the fixture seated in the lower Vee of the Stop Bracket (Item 4) and position the bracket so that the teeth of the 45 R.P.M. Delrin Gear just clear the Worm Gear (Item 16). Tighten the Lock Nut (Item 9) and remove the Fixture (Item 12).

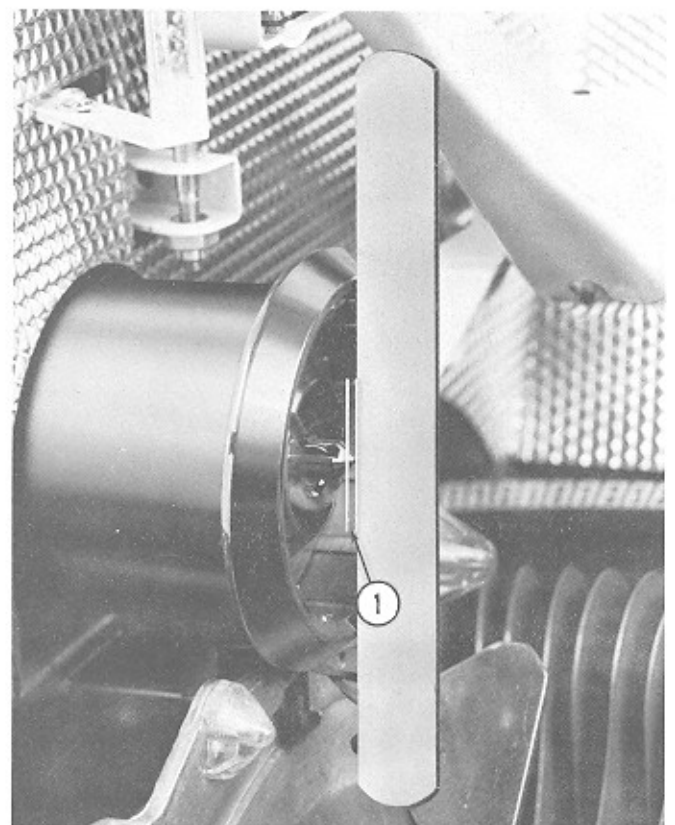


FIG. 56. TURNTABLE ADJUSTMENT

1. Dimension, 1/32" Inside Housing to 1/32" Protrusion

(6) The engagement of the 33 Delrin Gear (Fig. 57, Item 19) should be adjusted with the Solenoid (Fig. 58, Item 2) loose and the Spring (Item 4) disconnected. Loosen the Lock Nut (Fig. 57, Item 5). Place the Fixture (Item 12) on the Stud (Item 3). Hold the fixture firmly seated in the upper Vee of the bracket (Item 4) and position the bracket so that the teeth of the Delrin Gear (Item 19) just clear the worm gear. Tighten the Lock Nut (Item 5), remove the fixture, replace the spring (See Paragraph 7).

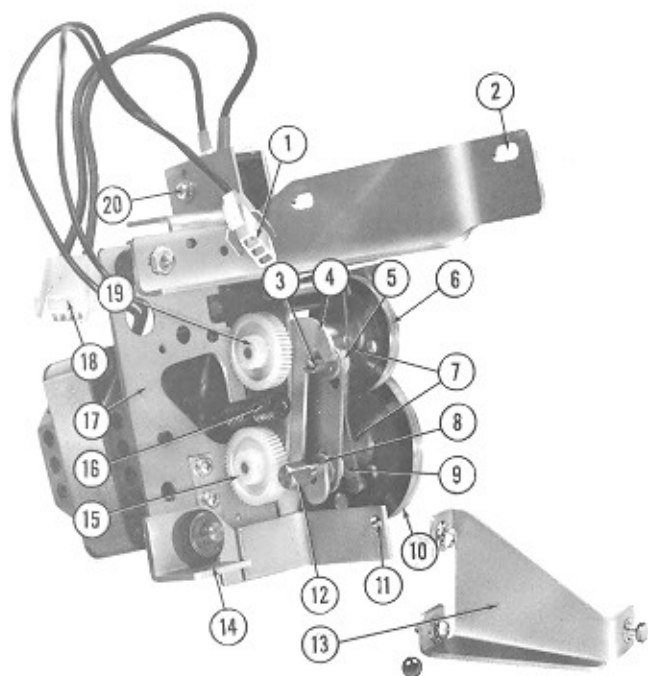


FIG. 57. TURNTABLE MOTOR ADJUSTMENT

1. Cap, 3 Circuit	117823
2. Mounting Hole, Mounting Bracket Assy.	117794
3. Stud, Stop Adjustment	122716
4. Stop Bracket, Mounting Channel & Bushing Assy.	122732
5. Nut, 8-32, Hex	73789-15
6. Pulley, 33-1/3 R.P.M.	119833
7. Set Screw, 6-32 x 3/16"	73513-19
8. Stud, Stop Adjustment	122716
9. Nut, 8-32, Hex	73789-15
10. Pulley, 45 R.P.M.	119832
11. Mounting Hole, Mounting Bracket & Angle Assy.	119758
12. Adjustment Fixture	122808
13. Support Bracket & Nut Assy.	121059
14. Mounting Hole, Mounting Bracket & Angle Assy.	119758
15. Gear & Shaft Assy., L.H., 45 R.P.M.	119745
16. Worm Gear	119742
17. Mounting Plate & Rivet Assy.	122735
18. Socket, 3 Circuit	117824
19. Gear & Shaft Assy., R.H., 33-1/3 R.P.M.	119744
20. Screw, 6-32 x 1/4", R. Hd.	73533-22

the linkage for free movement. A minimum of 50 grams upward pressure applied at the solenoid plunger is required to disengage the 45 R.P.M. Drive Gear while running.

(a) The L shaped bracket mounted under the head of the top motor mounting screw should be adjusted to bear lightly against the shift solenoid mounting plate to eliminate vibration.

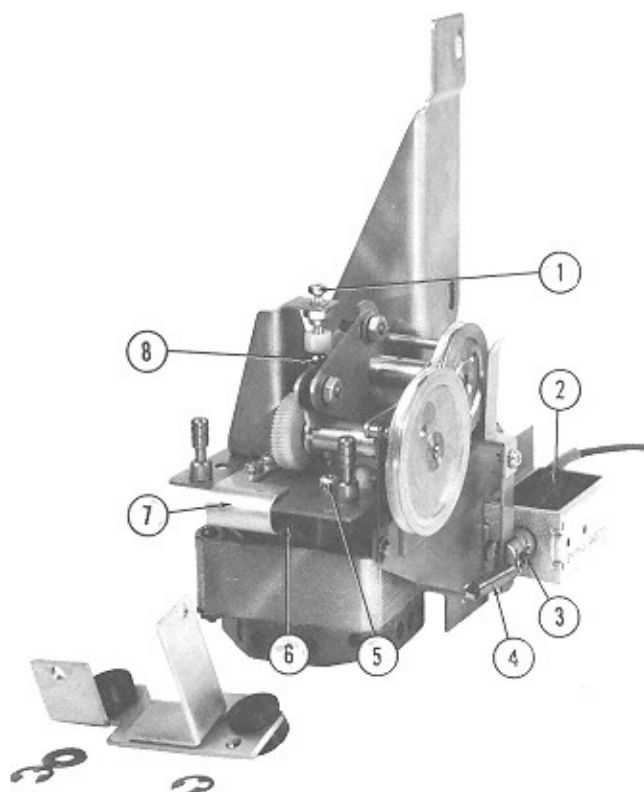


FIG. 58. TURNTABLE MOTOR ADJUSTMENT

1. Screw, 8-32 x 3/4", Hex	73660-86
2. Solenoid	121095
3. Plunger	121095-A
4. Spring	119842
5. Screw, 6-32 x 3/8", R. Hd.	73533-24
6. Point of Contact	
7. Support Bracket	119769
8. Ball, Thrust Bearing	46107

u. INTERLOCK SOLENOID ACTUATING SWITCH

The Switch (Fig. 54, Item 15) which energizes the Interlock Solenoid (Item 2) when a 33-1/3 R.P.M. record clamps on the turntable should be adjusted when the Cam Lever Roller (Fig. 54, Item 17) is on the peak of the Cam Lobe (Item 16) and a 33-1/3 record is on the turntable pilot. Stop the mechanism in this position by turning the line switch off. Adjust the contact blades by forming so that the contacts are closed with 1/32" overtravel. The long blade should clear the end of the Nylon Screw (Item 3) by 1/32". The contacts should be

open a minimum of $1/32$ " when the phonograph is in rest position.

v. INTERLOCK SOLENOID SWITCH ADJUSTMENT

The Interlock Solenoid and Switch Assembly (Fig. 54, Item 2) is designed to actuate when a $33\text{-}1/3$ R.P.M. record clamps on the turntable. The plunger latches in the energized position on the Flat Spring (Item 1) thereby allowing the contacts (Fig. 55, Item 8) to remain closed. The Gear Shift Solenoid (Fig. 58, Item 2) will remain energized as long as the Interlock Contacts are closed. The Interlock Contacts (Fig. 55, Item 8) may be adjusted by forming to provide a normally open gap of $1/32$ " and $1/32$ " overtravel when closed.

The Flat Spring (Fig. 54, Item 1) which latches the interlock solenoid plunger should release with 20 grams upward pressure as measured at the end of the spring. The spring may be adjusted by forming. The plunger is normally released by the movement of the turntable release cam when it returns to normal rest position.

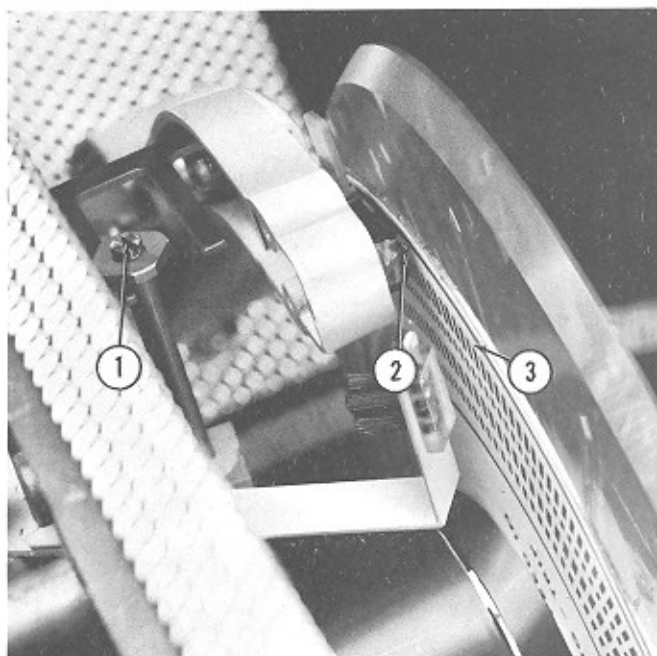


FIG. 59. TONE ARM ADJUSTMENT

- | | |
|---|--------|
| 1. Stop Pin Assy. | 115660 |
| 2. Tip of Stylus, Stylus, Dual Sapphire | 122668 |
| 3. Adjustment Disc | 121313 |

w. TONE ARM ADJUSTMENT

(1) TONE ARM FEED-IN ADJUSTMENT

The Tone Arm Feed-in Adjusting Screw (Fig. 59, Item 1) is set at the factory using the Fixture, Part No. X49831 (Fig. 59, Item 3) and should need no adjustment. However, should adjustment be required it may be accomplished by advanc-

ing the record changer in its cycle until a normal size record ($6\text{-}7/8$ " diameter) is clamped on the turntable. Stop the mechanism by turning the service switch off before the Needle Tip (Item 2) contacts the record. Adjust the Feed-in Adjusting Screw (Item 1) to position the needle to meet the record half way in the feed-in groove. The setting should be $3\text{-}5/8$ " to $3\text{-}7/32$ " from the outside circumference of the $33\text{-}1/3$ pilot to the tip of the needle.

NOTE: Always leave the square collar on the Feed-in Adjusting Screw in locked position as shown in Figure 59, Item 1 with either long axis of the collar positioned to span the U-shaped latch bracket. This prevents the tone arm from becoming disengaged from the stop pin. The flat sides of the collar are designed so that by turning the stop-pin one-quarter turn the tone arm latch bracket may be disengaged from the stop pin to facilitate changing the stylus. Whenever the stop is turned for service, note in which direction it is turned and make sure that it is returned to its original position.

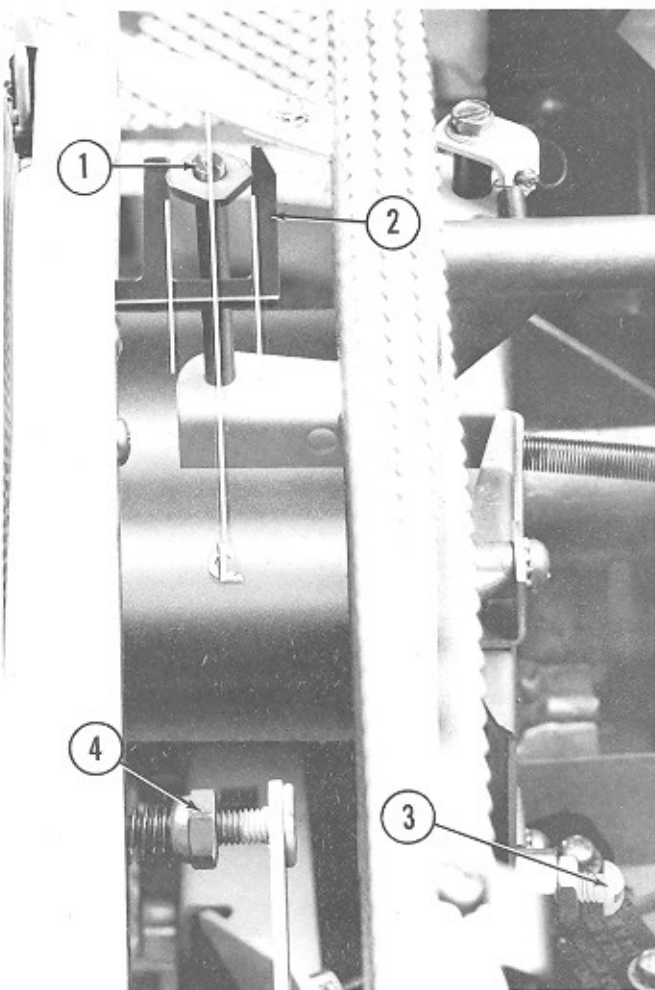


FIG. 60. TONE ARM ADJUSTMENT

- | | |
|---|----------|
| 1. Stop Pin Assy. | 115660 |
| 2. Latch, Tone Arm | 64423 |
| 3. Screw, $8\text{-}32 \times 1$ ", R. Hd., Nylon | 74288-27 |
| 4. Nut, $10\text{-}32$, Nylock | 73865-8 |

(2) TONE ARM LATCH RELEASE ADJUSTMENT

The Tone Arm Latch Release Bracket (Fig. 60, Item 2) should be adjusted with a perfectly flat record clamped in playing position on the turntable and the power turned off. The Adjusting Screw (Item 3) should be set to center the Feed-in Adjusting Screw (Item 1) within the U-shaped latch release bracket as shown.

(3) NEEDLE PRESSURE ADJUSTMENT

NOTE: The adjustable bearing screws in the gimbal bearing assembly should be set to minimum clearance and checked for free operation.

The Needle Pressure Adjustment may be accomplished by turning the Nylock Stop Nut (Fig. 60, Item 4) so that the needle skips the grooves at 5 to 7 grams pressure. To make this adjustment, select any record and while the record is playing, apply a suitable gram gauge at the end of the Tone Arm as shown in Figure 61, Item 1. The Nylock Nut (Fig. 60, Item 4) should be adjusted to give the recommended pressure.

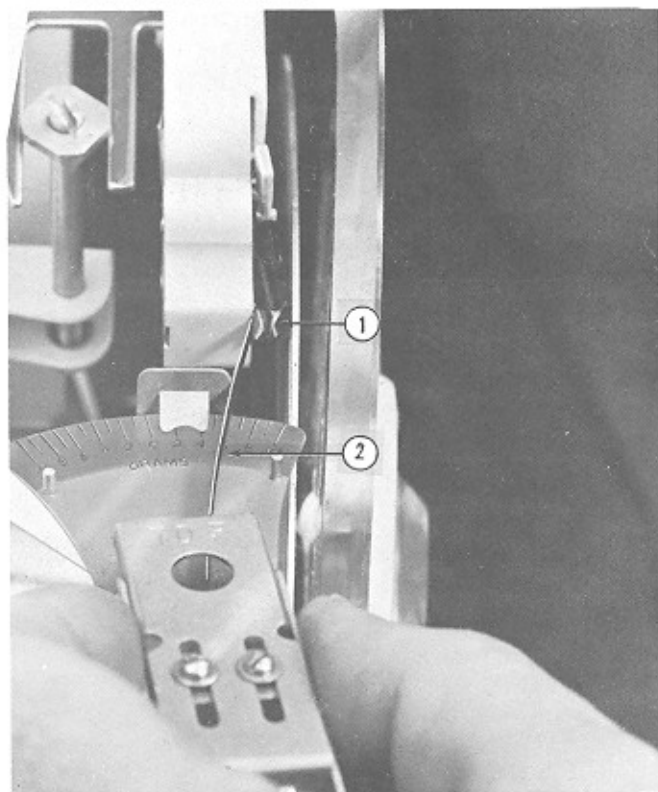


FIG. 61. NEEDLE PRESSURE ADJUSTMENT

1. Position for Measuring Needle Pressure
2. Gram Scale

(4) TONE ARM BALANCE ADJUSTMENT

The Tone Arm Balance Adjustment should be made with the mechanism in play position,

no record on the turntable and the service switch turned off. Tie the tone arm with a piece of thread as shown in Figure 62, Item 4 so that the Latch Release Bracket (Item 2) is disengaged from the Feed-in Adjusting Screw (Item 1). Gauge, at the pickup end of the tone arm, the pressure needed to move the tone arm up. The gram scale shown in Figure 61 may be used to check this adjustment. The tone arm should move up under a maximum of one gram pressure. The balance weight may be adjusted by turning the Screw (Fig. 62, Item 3).

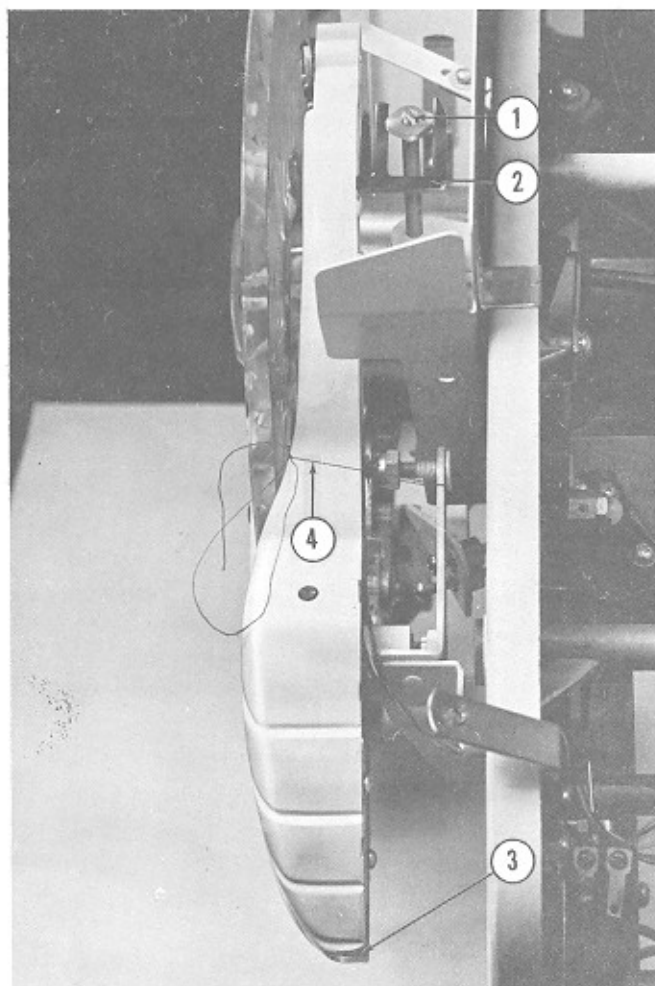


FIG. 62. TONE ARM BALANCE ADJUSTMENT

- | | |
|---|-----------|
| 1. Stop Pin Assy. | 115660 |
| 2. Latch | 64423 |
| 3. Screw, Balance Adjusting, 10-32 x 2", R. Hd. | 73575-100 |
| 4. Thread, Tie-down | |

x. TRIP SWITCH ADJUSTMENT

The Tone Arm Trip Switch (Fig. 63, Item 1) is adjusted by means of the Screw (Item 6). It is actuated by the Bracket (Item 3) mounted on the tone arm. The switch is adjusted at the factory using the Steel Disc X49831. The Disc Part No. 121313, shown in Figure 59, Item 3 may be used by clamping the Disc on the turntable and adjusting the Screw (Fig. 63, Item 6) to provide switch actuation when

the tone arm needle rests in the trip groove on the disc. The trip switch should actuate when the tip of the stylus is $1-59/64$ " to $1-31/32$ " from the edge of the small pilot hole in a $33-1/3$ R.P.M. record. The dimension as measured from the edge of the pilot hole in a 45 R.P.M. record to the tip of the stylus should be $1-5/16$ " to $1-23/64$ ".

(1) TRIP SWITCH STOP BRACKET

The Stop Bracket (Fig. 63, Item 4) serves to withhold the trip switch spring pressure from the tone arm and stylus while the record is playing. The Bracket (Item 4) may be adjusted by loosening the Screw (Item 5) and should be set so that when the switch resets to its normally open position the trip wire (Item 2) will have $1/16$ " over-travel after switch actuation.

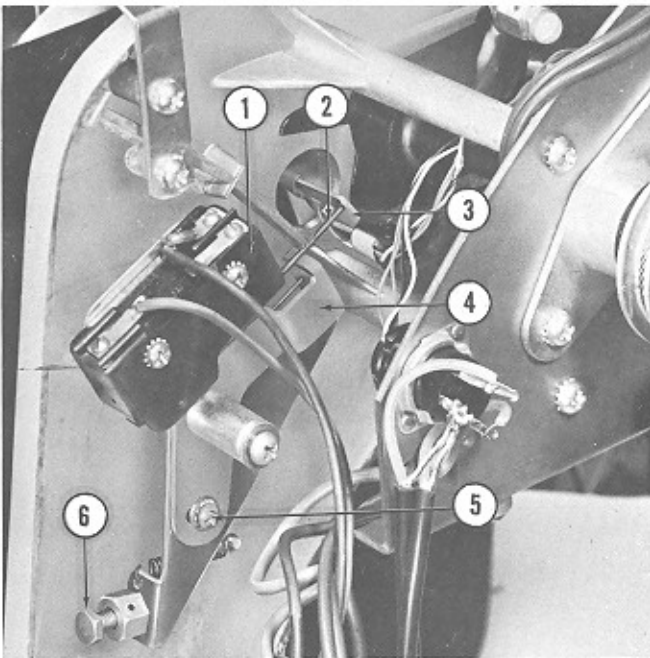


FIG. 63. TRIP SWITCH ADJUSTMENT

1. Trip Switch	121229
2. Trip Wire, Trip Switch	121229
3. Bracket, Tone Arm, Gimbal & Stop Nut Assy.	120451
4. Stop, Adjusting Bracket	121690
5. Screw, 6-32 x 1/4\", R. Hd.	73533-22
6. Adjusting Screw, 8-32 x 3/4\", Hex Hd.	73793-86

y. NEEDLE BRUSH ADJUSTMENT

The Tone Arm Needle Brush Adjustment should be made with the phonograph in its normal rest position. The Brush (Fig. 64, Item 3) should rest approximately $1/16$ " from the tip of the stylus as shown at Item 4. The Dimension (Item 1) from the edge of the brush arm to the end of the Elongated Slot (Item 2) in the decorative background may vary from a $1/16$ " to $3/16$ ". However, when a selection has been made the needle brush arm swings to the right, the brush sweeps across the stylus and returns to the left to clear the tone arm. The

Dimension (Item 1) should be adjusted to prevent undue strain on the brush arm cable at maximum right hand throw. This adjustment is made by loosening the Screws (Fig. 65, Items 2 and 4) and locating the Idler Pulley (Item 1). When correctly adjusted, tighten the two screws.

The Dimension (Fig. 66, Item 1) may be varied by loosening the Screw (Item 3) and moving the adjustable bracket in or out to provide $1/32$ " penetration of the needle tip into the bristles of the brush during actuation.

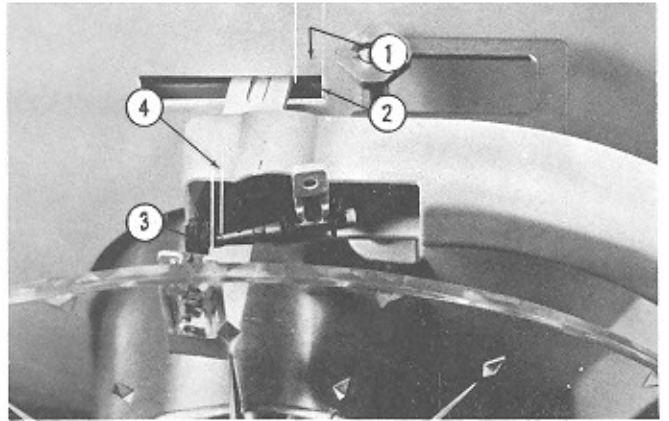


FIG. 64. NEEDLE BRUSH ADJUSTMENT

1. Dimension, Brush Arm to End of Slot $1/16$ " to $3/16$ "	
2. End of Slot, Decorative Background & Clip Assy.	123945
3. Brush	119080
4. Dimension, $1/16$ ", Bristles to Tip of Stylus	

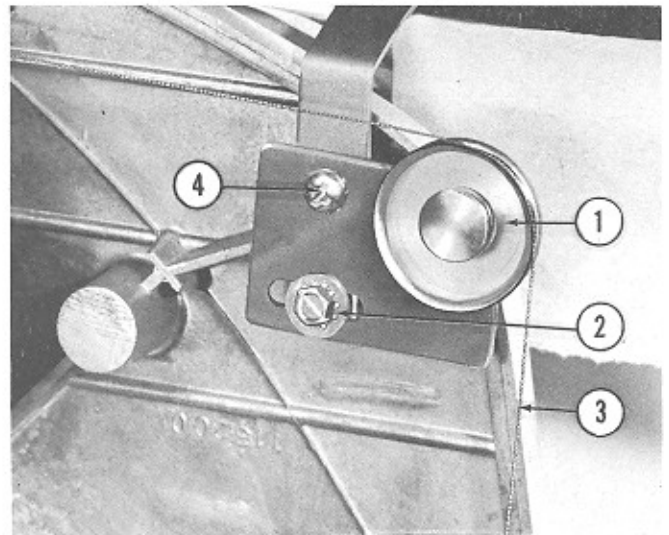


FIG. 65. NEEDLE BRUSH ADJUSTMENT

1. Pulley & Bracket Assy.	123342
2. Adjusting Screw 8-32 x 7/16\", Hex	71493-37
3. 38\" Cable, Tone Arm Brush	60912
4. Screw, 8-32 x 1/2\", R. Hd.	73533-38

CAUTION

Adjust the Needle Brush with care to avoid damage to the cartridge or stylus.

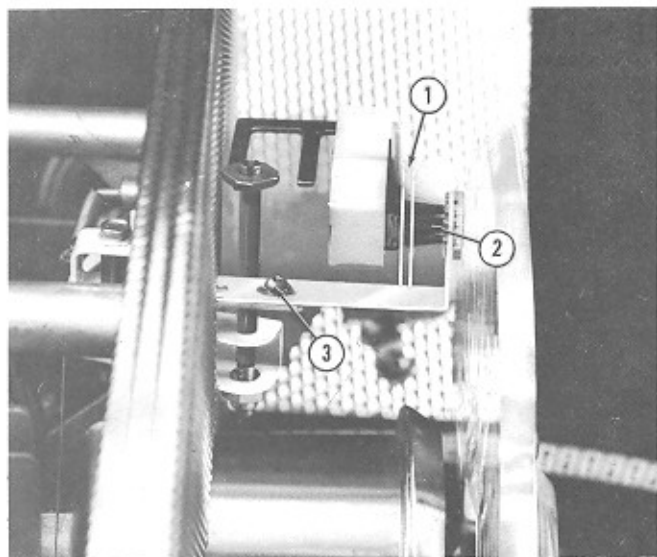


FIG. 66. NEEDLE BRUSH ADJUSTMENT

- | | |
|---|----------|
| 1. Dimension, 1/32" Penetration of Tip into Brush | |
| 2. Brush | 119080 |
| 3. Screw, 5-40 x 3/16", Pan | 74407-50 |

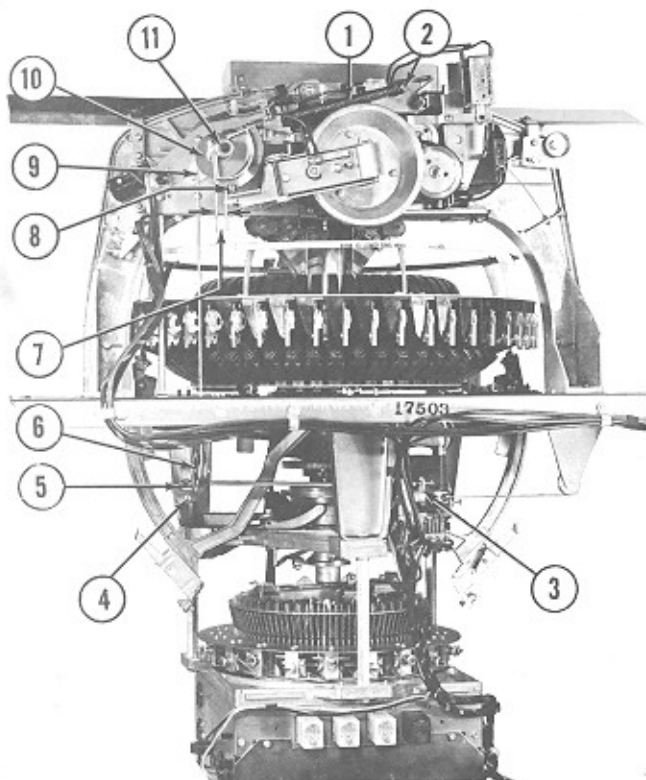


FIG. 67. TURNTABLE ACTUATING CABLE ADJUSTMENT

- | | |
|---|----------|
| 1. Spring, Turntable Release | 119425 |
| 2. Spring Pin | 61111 |
| 3. Actuating Arm Assy., Transfer Switch | 113299 |
| 4. Adjusting Screw, 10-32 x 1-3/4", R. Hd. | 73502-99 |
| 5. Bracket & Pin Assy., Record Clamp Lever | 59688 |
| 6. Idler Pulley | 59735 |
| 7. Dimension, 3/8", Edge of Cam to Side of Pulley | |
| 8. Roller, Cam Lever & Roller Assy. | 119443 |
| 9. Turntable Release Cable | 59871-A |
| 10. Pulley | 59415 |
| 11. Cam, Record Clamp | 119429 |

z. TURNTABLE ACTUATING CABLE ADJUSTMENT

Adjustment of the Tone Arm and Turntable Release Cable (Fig. 67, Item 9) should be made with the changer mechanism in its normal rest position. The Adjusting Screw (Item 4) positions the Slide Pin (Item 5) to which the Release Cable is anchored. It should be adjusted so that the Dimension (Item 7) from the edge of the Turntable Release Cam (Item 11) to the side of the Roller (Item 8) on the cam lever assembly is 3/8". Check this adjustment by selecting any record and while in play position the Nylon Adjusting Screw (Fig. 68, Item 2) should rest approximately centered on the flat portion of the Tone Arm Release Cam as indicated at Item 1. The 3/8" dimension may be varied to provide centering of the Nylon Screw.

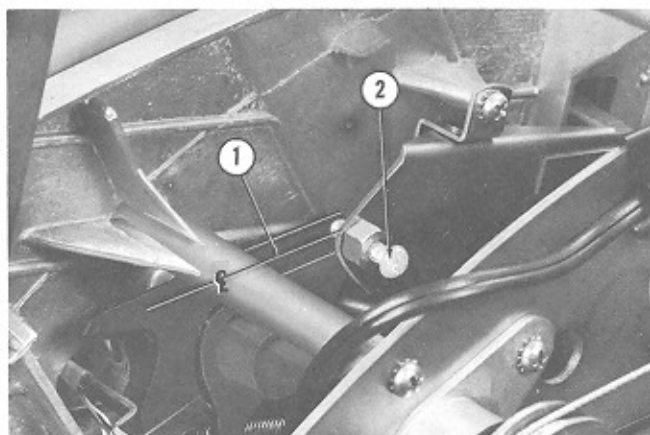


FIG. 68. TURNTABLE ACTUATING CABLE ADJUSTMENT

- | | |
|---|----------|
| 1. Center Line of Flat, Hub & Lever Assy. | 59722 |
| 2. Screw, 8-32x1", R.Hd., Nylon | 74288-27 |

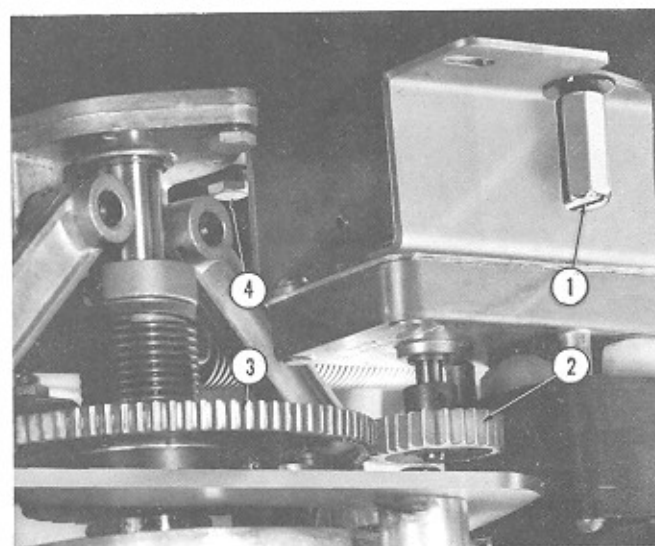


FIG. 69. CHANGER MOTOR PINION GEAR ADJUSTMENT

- | | |
|----------------------------------|-----------|
| 1. Stud | 122822 |
| 2. Gear & Hub Assy. | 68717 |
| 3. Gear & Ratchet Wheel Assy. | 116986 |
| 4. Screw, 10-32 x 5/16", Hex (2) | 73793-226 |

aa. CHANGER MOTOR PINION GEAR ADJUSTMENT

The Changer Motor Pinion Gear (Fig. 69, Item 2) engagement with the Main Gear (Item 3) is adjustable by loosening the Stud (Item 1) and two bolts, one of which is shown at Item 4. The Motor and Mounting Bracket Assembly may be shifted to provide minimum backlash between the pinion gear and the main gear consistent with freedom of action.

5. MAINTENANCE

a. INSTALLATION OF NEW TURNTABLE ACTUATING CABLE

(1) The replacement Tone Arm and Turntable Actuating Cables are supplied with one loop formed at the factory. To install a new cable the defective cable must be removed. This is easily accomplished by cutting the old cable and loosening the Set Screw (Fig. 70, Item 5). The broken cable can then be removed from the Pulley (Item 3).

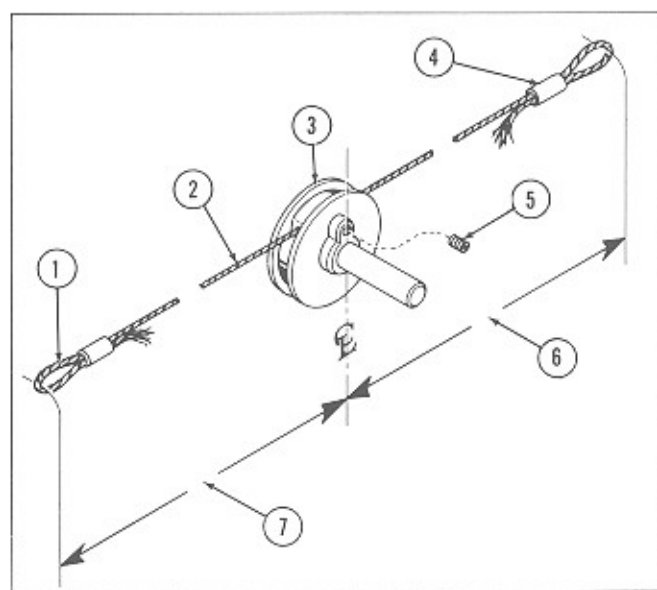


FIG. 70. INSTALLATION OF TURNTABLE CABLE

1. Pre-formed Loop	
2. Cable & Sleeve Assy.	59871-A
3. Pulley	59415
4. Sleeve	59891
5. Set Screw, 8-32 x 3/16"	73511-29
6. Dimension, 6-3/16" from Center Line to Inside of Loop	
7. Dimension, 18-7/8" from Center Line to Inside of Loop	

(2) The new Cable (Item 2) should pass through the hole in the Pulley (Item 3) leaving the pre-formed Loop (Item 1) to the left as viewed from the rear of the phonograph.

(3) Slide the Cable Clamp (Item 4) on the right hand end of the cable and form a loop three quarters of an inch long. Secure with the Cable Clamp (Item 4).

(4) Adjust the Cable through the pulley to the dimension shown at (Items 6 and 7) and tighten the Set Screw (Item 5).

(5) The left hand of the cable passes through the chassis mounting plate, around the Idler Pulley (Fig. 67, Item 6) and anchors to the Slide Pin (Item 5).

(6) The right hand end of the cable should wrap once around the Drive Pulley (Item 10) and hook to the Spring (Item 1) which is anchored to the Spring Pin (Item 2). When correctly installed, the turntable release lever roller should be on the forward track of the Turntable Release Cam (Fig. 67, Item 11) and the Roller (Item 8) of the Cam Lever Assembly should be on the rear track of the Turntable Release Cam.

(7) Adjust the cable with the Screw (Fig. 67, Item 4) as described in Paragraph z. of Section 4 on Page 30. Check the phonograph for correct mechanical operation by playing several selections.

b. INSTALLATION OF NEW TURNTABLE DRIVE BELTS ("O" RINGS)

(1) Replacement of the 45 R.P.M. Drive Belt is easily accomplished without any disassembly of the drive system. The following steps are suggested:

- (a) Turn the line switch off.
- (b) Roll the 45 drive belt off the motor drive pulley.
- (c) Slip the belt over the flywheel.
- (d) Press the Record Clamp Shaft (Fig. 54, Item 11) forward and slip the belt off the Clamp Spring and Shaft. The Release Lever may be pulled to the rear against the spring tension to allow the belt to pass between the two Rollers (Items 4 and 12) and the end of the Record Clamp Shaft (Item 11). To replace the "O" Ring reverse the above steps.

CAUTION: Do not turn the drive pulleys or flywheel with either Drive Gear (Fig. 57, Items 15 and 19) engaged with the worm gear. The Shift Solenoid Plunger (Fig. 58, Item 3) should be manually held in a neutral position whenever the pulleys are turned manually.

(2) The 33-1/3 R.P.M. drive belt may be removed after the 45 R.P.M. belt has been removed. The following steps are suggested:

- (a) Turn the line switch off.

(b) Remove the 45 R.P.M. drive belt as suggested above.

(c) Remove the three screws which mount the flywheel to the turntable pulley. (Fig. 54, Item 6) shows one of these screws. Let it hang on the pilot shaft.

(d) Loosen the Set Screw (Fig. 57, Item 7) and remove the 45 R.P.M. drive pulley. Use care to avoid losing the shim washer.

(e) Roll the 33-1/3 belt off the drive pulley and remove the belt from the turntable pulley.

(f) Form a small loop at the left end of the drive belt and pass it through the center hole of the flywheel.

(g) Compress the turntable pilot cup washer and spring and the record clamp shaft. Slip the belt over the end of the clamp shaft. Pull the loop back through the center hole of the flywheel to remove the belt.

(h) Reverse the procedure to install a new belt.

(i) When mounting the 45 R.P.M. drive pulley, back up the drive gear. Place the shim washer and pulley on the shaft and insert a .005" thickness gauge between the end of the sleeve bearing and the hub of the pulley. Tighten the set screw and remove the shim.

(j) Replace the flywheel, then replace the 45 R.P.M. drive belt.

c. SHIM PROCEDURE FOR ASSEMBLY OF TURNTABLE SHAFT

Following installation of the Thrust Bearing Group (Fig. 71, Items 6, 7 and 8) against the turntable, three Fiber Washers (Items 9, 11 and 13) and two Steel Shims (Items 10 and 12) should be installed in the order shown. The turntable shaft is then installed through the Sleeve and Bushing Assembly (Item 14) after which the Shim Washers (Items 16, 19 and 21) are installed on the flywheel end of the shaft starting with a fiber washer and ending with a fiber washer, alternating with steel washers until the shaft end play is within .008" to .013". The Flat Washer (Item 18) bears against the shoulder on the shaft. The Pulley (Item 20), Lock Washer (Item 22) and Lock Nut (Item 25) complete the assembly. The Bearings should be well lubricated with S.A.E. No. 10 Motor Oil and checked for free running.

d. LUBRICATION

The mechanism is carefully lubricated be-

fore leaving the factory, but should be checked periodically and, if necessary, lubricated in accordance with the following instructions. Absorbed Oil, Part No. 21934A, should be used where a non-fluid lubricant is required, such as all cam working surfaces, the main gear, the changer motor and selector motor gears, the bearings of heavy duty linkage and the anchor points of all springs. The turntable drive gears should be lubricated with a Silicone Grease, Part No. 68684A. Both of the two lubricants such as Absorbed Oil and Silicone Grease can be purchased from your Wurlitzer Distributor.

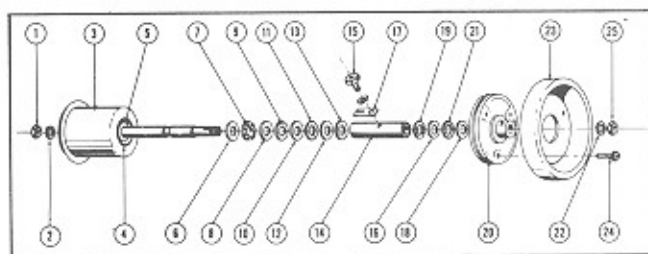


FIG. 71. SHIM PROCEDURE FOR ASSEMBLING TURNTABLE SHAFT

1. Nut, 7/16-20	59470
2. Lock Washer	73607-12
3. Turntable & Shaft Assy.	122779
4. Oil Slinger	59571
5. Washer on Shoulder of Shaft	56530
6. Thrust Washer	59864
7. Ball Race	59867
8. Thrust Washer	59864
9. Washer, Fiber	63732
10. Shim, Steel	63731
11. Washer, Fiber	63732
12. Shim, Steel	63731
13. Washer, Fiber	63732
14. Sleeve & Bushing Assy.	64520
15. Screw, Turntable Sleeve	64513
16. Shim, Steel	63731
17. Clamping Plate	64512
18. Washer on Shoulder of Shaft	56530
19. Washer, Fiber	63732
20. Pulley	64190
21. Washer, Fiber	63732
22. Lock Washer	73607-12
23. Flywheel	59456
24. Screw, 8-32 x 1/2", R. Hd. (3)	73533-38
25. Nut, 7/16-20	59470

A good grade, light-weight motor oil (S.A.E. 10) may be used on all rollers, the fulcrum points of the light-duty link and lever assemblies, the turntable motor bearings and the drive pulley shafts. No. 10 motor oil should also be used to lubricate the record changer main shaft bearings and the main cam bearings.

A one-half inch hole one and one quarter inches off center will be found in the record carrier casting which will align with a hole in the chassis mounting plate. The coincidence of these holes will occur when the half-inch hole is squarely in front. Oil at this point, through the two holes, will be absorbed by a felt pad to lubricate the record lift arm bearings.

NOTE: Do not lubricate the pivot bearings of the back stop pawl.

e. RELAY MAINTENANCE

Relay, Part No. 122133, used in the junction boxes of both phonograph models, as well as in the Top Tunes junction box, is a plug-in, 24 Volt D.C. relay with a White nylon dust cover. It may be used in any of the circuits designed for this relay. The sockets are color coded to differentiate between sockets for the A.C. relays which are identified with red paint. The normally open contacts should make with a .006" shim between armature and core and should break with a .009" shim between armature and core. Contact pressure should be 10 grams minimum.

Relay, Part No. 122366, is used in both model phonograph junction boxes. This is a plug-in 24 Volt A.C. relay with a Red nylon dust cover. The contact adjustment is the same as for the plug-in D.C. relay above.

Relay, Part No. 120694, formerly known as the over-ride and cancel relay, is now designated RY-5 and is mounted in the amplifier. This is a 28 Volt D.C. relay. The armature back tension should be a minimum of 25 grams. Contact pressure should be 25 grams minimum with a .015" minimum overtravel.

All relay contacts are 97% silver and should be cleaned with burnishing tools or contact cleaners made expressly for high grade silver contacts. Do not use coarse abrasive materials for cleaning.

f. NEEDLE AND CARTRIDGE REPLACEMENT

Refer to Figure 62, Item 1, which shows the Tone Arm Stop Pin Assembly. To replace the stylus lever or cartridge, turn the Stop Pin (Item 1) one quarter turn in either direction. This permits the tone arm Latch Bracket (Item 2) to be disengaged from the Stop Pin. The tone arm will then clear the record guide assembly for free access to the stylus lever or cartridge. Turn the Stylus Lever so that the lever protrudes straight forward and pull the lever out of the mounting. The new stylus may then be pressed into the mounting and the number one tip set to engage the record grooves.

Cartridge replacement is likewise performed with the tone arm disengaged from the stop pin. By removing the two cartridge mounting screws the cartridge may be disconnected from the four pin plug in the tone arm assembly.

When replacing the tone arm Latch Bracket (Fig. 62, (Item 2) on the Stop Pin (Item 1) turn the

Stop Pin one quarter turn in the opposite direction from which it was originally turned to unlatch. This restores the tone arm to the correct feed-in position.

g. CABINET LIGHTING

The 2800 Series Phonographs are lighted by three twenty-five watt, twenty-eight inch fluorescent lamps, Part No. 122411. The upper lamp back-lights the display signs and the top portion of the program holder while the lamp above the selector switch assembly back-lights the lower portion of the program holder, also illuminating the selector keys and numbers. The third lamp is accessible by unlatching the lower front door which frames the glass sign "Stereo by Wurlitzer". This is hinged at the lower edge and latched by a spring loaded lever at each end inside of the cabinet. This lamp provides illumination for the selector keys, the lower front door sign, the coin denomination window and the grille. The fluorescent starters (Part No. 57365) are located at the left end of the fluorescent lamps.

6 TOP TUNES SELECTOR

a. The Top Tunes and Album Selector for the Model 2800 Wurlitzer Phonograph is designated as Kit 184A, Automatic Programing Assembly, Part No. 124651. This includes a Window Casting and Button Assembly, a Control Box (Fig. 74) and the Mounting Plate and Motor Assembly shown in Figure 72, mounted on the two hundred selection electric selector.

This is a versatile, flexible unit, which, by finger tip actuation of a selector bar may be used to select the ten odd number selector pins from J1 through K9 or the ten consecutive selector pins from J1 through J0.

Depositing a half dollar in the phonograph actuates RY-11 on the Control Unit (Fig. 74). This relay turns on the Select light and energizes the Pre-Set Solenoid on the Phonograph Keyboard. The Golden Bar in the Window Casting and Button Assembly also lights.

Pressing the Golden Bar actuates three switches labeled 1, 2 and 3 on Wiring Diagram No. 123859. The closing of number 3 switch energizes RY-12 on the Control Unit. Contacts 8 and 12 of RY-12 close to start the motor (Fig. 72, Item 6). Contacts number 3 and 11 on RY-12 open to release RY-11. As the motor starts through its cycle the Switch (Fig. 72, Item 9) closes to complete the cycle. The Switch (Fig. 72, Item 5) is pulsed by the lobes on the large gear (Item 7) thereby adding digits to the electric counter in the Keyboard. The Release Switch (Item 10) opens at the end of the stroke of the actuator link to release RY-12. The cycling of the motor actuates the trip Levers (Items 2, 3 and 4) to

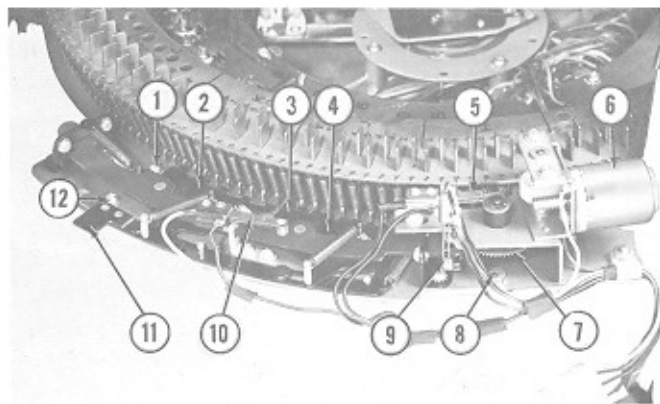


FIG. 72. TOP TUNES AND ALBUM SELECTOR - 2800

- | | |
|-----------------------------------|----------|
| 1. Screw, 6-32 x 1/4", R. Hd. | 73533-22 |
| 2. Actuator & Pin Assy. | 124073 |
| 3. Actuator, Lower, Album | 124031 |
| 4. Actuator & Pin Assy., T.T.T. | 124074 |
| 5. Switch, Counter | 124014 |
| 6. Motor & Worm Assy. | 124246 |
| 7. Gear & Shaft Assy. | 124026 |
| 8. Screw, 6-32 x 1/2", R. Hd. (2) | 73533-26 |
| 9. Switch, Full Cycle | 124015 |
| 10. Switch, Release | 124002 |
| 11. Slide & Spring Assy. | 124170 |
| 12. Screw, 6-32 x 1/4", R. Hd. | 73533-22 |

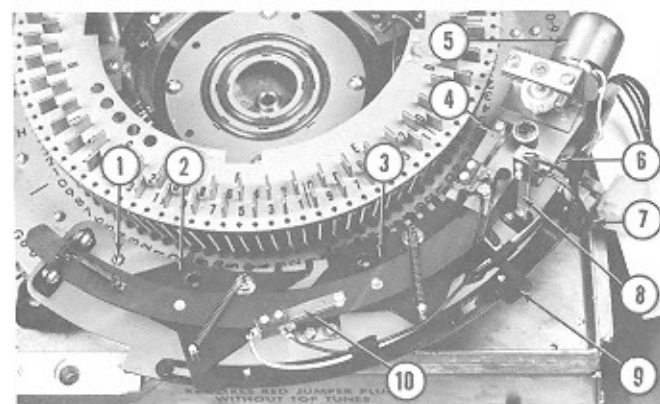


FIG. 73. TOP TUNES AND ALBUM SELECTOR - 2810

- | | |
|---------------------------------|---------|
| 1. Screw, 4-40 x 1/4", R. Hd. | 73533-2 |
| 2. Actuator & Pin Assy. | 124097 |
| 3. Actuator & Pin Assy., T.T.T. | 124098 |
| 4. Switch, Counter | 124014 |
| 5. Motor & Worm Assy. | 124246 |
| 6. Gear & Shaft Assy. | 124026 |
| 7. Slide & Spring Assy. | 124171 |
| 8. Switch, Full Cycle | 124015 |
| 9. Actuator, Album | 124049 |
| 10. Switch, Release | 124002 |

unlatch ten selector pins as determined by the position of the Selector Lever (Item 11) shown in the Top Tunes position.

The Mounting Plate and Motor Assembly is attached to an additional plate spot welded to the lower plate of the selector pin assembly by four machine screws. Three are visible in Figure 72 at Items 1, 8 and 12.

The unit is thoroughly tested before leaving the factory and should require no adjustment.

b. The Top Tunes and Album Selector for the Model 2810 Wurlitzer Phonograph (Kit 184B, Part No. 124652) uses the same Window Casting and Button Assembly and the same Control Unit Assembly as Kit 184A for the Model 2800.

The Mounting Plate and Motor Assembly (Fig. 73) is designed to mount on the lower plate of the one hundred selection electric selector by removing the two inner selector solenoid mounting screws from solenoids D6-0 and G1-5. The Mounting Plate and Motor Assembly is held in position by two 4-40 x 1/4" screws. One is shown in Figure 73 at Item 1. The other screw will be found located below the number 4 arrow.

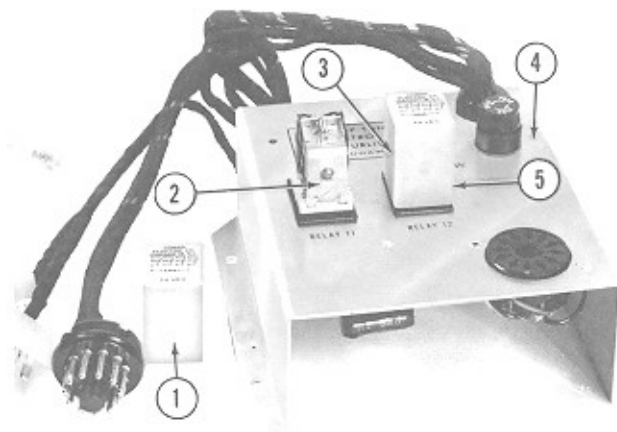


FIG. 74. TOP TUNE CONTROL UNIT ASSEMBLY

- | | |
|--|----------|
| 1. Cover, Relay | 122133 |
| 2. Relay | 122133 |
| 3. Squeeze Long Sides & Pull to Remove Relay | |
| 4. Fuse, 1-1/4 Ampere, Slow Blo | 71591-13 |
| 5. Squeeze Short Sides to Remove Cover | |

The operation is identical with the unit in Figure 72. The Selector Lever (Fig. 73, Item 7) is shown in the Top Tunes position.

The Switch (Item 4) is pulsed by the lobes on the large gear (Item 6) to add digits to the electric counter. The Switch (Item 8) is the full cycle switch and Item 10 is the Release Switch.

The ten selector pins E1 through E0 are released when the Selector Lever (Fig. 73, Item 7) is set in the Album position. In the Top Tunes position the ten odd number pins E1 through F9 will be released.

The unit is thoroughly tested before leaving the factory and should require no adjustment.

7. SOUND SYSTEM

The 2800 series phonograph sound system consists of the Model 545 dual channel amplifier with self contained power supply, a low inertia tone

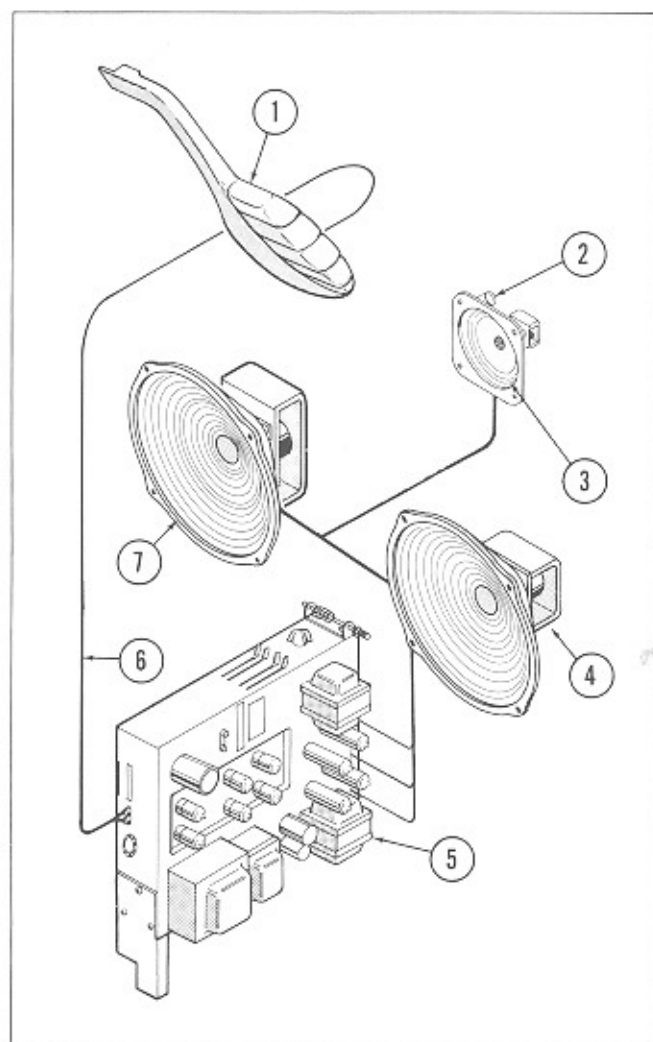


FIG. 75. STEREO/MONOPHONIC SOUND SYSTEM

1. Tone Arm & Wire Assy.	121940
2. Capacitor, 4 Mfd., N.P.	74981
3. Speaker, 6" 8 ohm, P.M.	124121
4. Speaker, 12", 16 ohm, P.M.	120777
5. Amplifier, Model 545, Less Tubes	123384
6. Input Cable Assy. (2)	110190
7. Speaker, 12", 8 ohm, P.M.	117754

arm using a stereo cartridge and dual tip sapphire stylus, one twelve-inch heavy duty speaker, one twelve-inch mid-range speaker and one six-inch tweeter speaker with cross-over network. The amplifier is mounted on a pivot bracket and guide plate so that by removing one knurled thumb screw, the amplifier may be tilted back, completely exposing both sides of the chassis, providing easy, rapid service accessibility.

Phono jacks are provided for connecting an auxiliary dual channel amplifier when required. Each channel has independent tone controls. A single channel balance control is located on the top edge of the chassis pan. The output of both channels is automatically held to the pre-set level of the loudness control by tube V4 shown on the Sound System Schematic, Part No. 123862, in this manual.

The Dual Loudness Control is mounted on the rear edge of the amplifier chassis pan, accessible through the opening in the left hand end of the lower back door as is the main line switch and the manual reject button. Also mounted on the rear edge of the amplifier pan but only accessible when the lower back door is removed, is the fifteen ampere line fuse and a service outlet with a maximum rating of four amperes.

Remote speaker terminal boards are provided for each channel to which may be connected 3.2, 8 or 500 ohm or constant voltage speakers. An instruction card will be found inside each phonograph showing recommended auxiliary speaker loads and connections.

Remote loudness and cancel control is provided by the installation of Kit 169A, Part No. 121007, a motor driven control system which eliminates the use of expensive shielded cable.

The type and functions of the amplifier tubes are listed in the following table:

TYPE	PART NO.	FUNCTION
7025 12AX7A 12AU7A	or 114046 (2) 58427 58420 (2)	Voltage Amplifier Variable Resistance Voltage Amplifier
7199	115555 (2)	Voltage Amplifier Phase Inverter
6973	114048	Power Amplifier

THEORY OF OPERATION, 545 AMPLIFIER

The Model 545 Amplifier is designed for use in either stereophonic or monophonic reproduction by means of a slide switch mounted on the chassis pan adjacent to the electrolytic capacitor can at the input end of the amplifier. It is normally set in the stereophonic position when leaving the factory.

The audio signal from each source of the stereo cartridge is fed directly to its respective grid of the 7025 or 12AX7A input tube, V1. A portion of the signal is taken from channel A and B and fed through the capacitors C6 to the voltage amplifier section of the level control tube, V4 (12AX7A). The second section of V4 rectifies the audio signal resulting in a varying D.C. voltage which is applied to the time constant circuit composed of C-14, R32-C15. This D.C. voltage is applied to the grids of the variable resistance sections of both 12AU7A tubes, V2 and V5. The variable resistance sections of V2 and V5 are arranged so that an increase in the D.C. voltage from V4 will cause a decrease in output signal of both sections of V1. In the reverse condition when

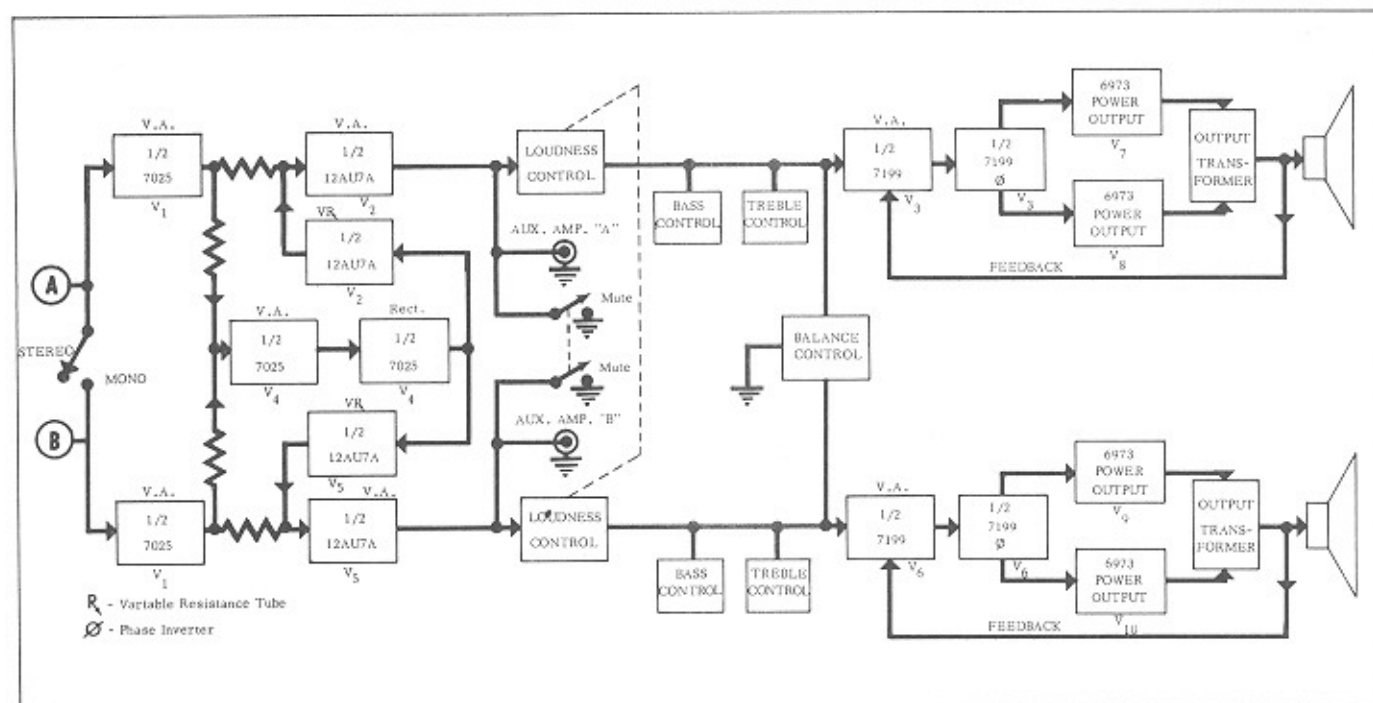


FIG. 76. MODEL 545 AMPLIFIER BLOCK DIAGRAM FOR SIGNAL TRACING

the D.C. voltage from V4 is decreased, the output signal from V1 will increase.

The second section of each 12AU7A, V2 and V5, amplifies the audio signal before passing through the loudness controls which are controlled by a single shaft through the rear edge of the amplifier chassis pan.

Independent tone compensation is provided, after the signal has passed the loudness control, by the bass and treble lever type switches on the top of the chassis pan.

The balance control, mounted on the top edge of the chassis, is connected between the input grids of the two 7199 voltage amplifier sections and serve to equalize the sound level between channel A and B. It should be adjusted after auxiliary speakers have been connected. One method for adjusting the balance is to play a monophonic record and carefully listen to each channel at the Auxiliary speakers and adjust the balance control to equalize the sound level.

The 7199 phase inverter sections drive the 6973 tubes in the two push-pull power output stages. A negative feed-back circuit is employed for constant voltage output with minimum distortion under varying speaker loads.

During record changing intervals the amplifier is muted by the Mute and Play Switch mounted at the rear of the Changer Mechanism. The connections are made through the six pin socket on the front edge

of the amplifier chassis pan using pins number One, Five and Six. Pins number Two and Four are connections from the squelch contacts, part of the Mute and Play Switch Assembly, to place a pre-set control voltage on the automatic level control circuit during record changing intervals, preventing audio level build-up at the start of the next record.

The Silicon Diode SR-5, shown on the Wiring Diagram, Part No. 123862, near the six pin muting socket, provides a pre-set control voltage on the level control circuit during periods of silence between selections on extended play records which permits the second selection to start at the level of the first selection.

The power supply for the phonograph is an integral part of the Model 545 Amplifier. Two transformers are used as shown on the Wiring Diagram, Part No. 123862. Transformer T-3 is energized when the phonograph is on standby. Power for the twenty-four volt A.C. changer motor, Relay, RY-6, the Letter Selector Solenoids, the Coin Magnets and Selection Motor on the 200 selection phonograph is supplied by this transformer. These circuits are protected by the eight ampere fuse on the amplifier. Twenty-eight volts D.C. for D.C. relays, Latch and Pre-Set Solenoids, Number Selector Solenoids, Driver and Cancel Solenoids, the Speed Control and Interlock Solenoid, is supplied by the two Silicon Diodes SR-1 and SR-2, used as a full wave rectifier. The D.C. power supply is protected by two fuses one with a five ampere rating and one with an eight ampere rating.

Transformer T-2 is energized when a selection is made, through the closing of the override switch in the electric selector assembly which in turn energizes the override relay, RY-5, mounted in the Amplifier. Contacts number Four and Five, close the A.C. line voltage to transformer T-2 and the turntable motor. The Silicon Diodes SR-3 and SR-4 are used in a voltage doubler circuit to supply approximately four hundred volts D.C. for the amplifier. T-2 also furnishes 1.6 volts A.C. which by proper phasing adds to the 4.5 volts (standby heater voltage) from T-3 to quickly bring the tubes to operating condition as soon as the record reaches play position. Use of the 4.5 volt standby heater voltage greatly prolongs tube life.

A terminal board is provided at the output of "A Channel" and "B Channel" of the dual channel amplifier to which both cabinet and remote auxiliary 3.2, 8 or 16 ohm type speakers (without matching transformer) can be connected. Each channel has four output terminals labeled A, B, C and D. In addition, one terminal labeled G is the common ground for both channels. It may be desirable to reduce the phonograph output while maintaining a relatively high output at the remote speakers. If this is desired, move the speaker leads from the phonograph down from terminal A to B, C or D to give required level. If a high level output is desired at the phonograph, move the auxiliary remote speaker leads down to B, C, or D to give the required level. (See Instruction Card above Amplifier in the phonograph for making multiple speaker installations).

CHART TO AID IN DETERMINING IF SPEAKERS
HAVE MATCHING TRANSFORMERS

D.C. Resistance Measured By An Accurate Volt - Ohm Meter

Number of Speakers In Parallel	C. V. or 500 Ohm Speakers With		Voice Coil Without
	Matching Transformers		Matching Transformers
1	30 to 100 ohms or more		3.5 to 16 ohms
2	15 to 50 ohms or more		1.7 to 8 ohms
3	10 to 30 ohms or more		1.2 to 5.3 ohms
4	7.5 to 25 ohms or more		.87 to 4 ohms
5	6 to 20 ohms or more		.7 to 3.2 ohms

Constant Voltage or 500 ohm type speakers, (speakers which have matching transformers) can be connected to terminals labeled A-C.V.-G and B-C.V.-G on the 545 Amplifier. The phonograph level may be reduced by moving the speaker leads from A to either B, C or D as needed. All speakers should be in phase for best results.

NOTE: Here are several methods using phonograph speakers and Constant Voltage type speakers at the same time:

(1) With one or two C.V. speakers connected to the "C.V.-G." terminals of each channel, the phonograph speakers, if used, may be on termi-

nals A to D depending upon the level required at the phonograph.

(2) With three to five C.V. speakers connected to the "C.V.-G." terminals of each channel, the phonograph speaker, if used, should be on terminals B to D depending upon the level required at the phonograph.

CAUTION!

Do not connect 3.2, 8 or 16 ohm speakers directly to the C.V. terminals. Connect only speakers with matching transformers to C.V. terminals.

The Model 235 Auxiliary Amplifier and Remote Loudness Control, Part No. 115575, is a dual channel amplifier available for those locations requiring greater sound power than that provided by the Model 545 Amplifier or where special speaker control problems arise. The Amplifier may be used in either a stereophonic or a monophonic system as described in the installation instructions.

8. METHOD OF NUMBERING RELAY CONTACTS

When referring to functional schematics or wiring diagrams of the Model 2800 Series Phonographs, it will be noted that all relay contacts are designated by a number. Figure 77 shows the relative position of the contacts on various stacking arrangements in use. The plug-in type relays incorporated in the Model 2800 Series have all terminals numbered on the solder lug side of the sockets. The Red cover relays are twenty-four volt A.C. relays while the White cover relays are twenty-eight volt D.C. relays. Red relays are interchangeable with Red only and White relays are only interchangeable with White. To remove a plug-in relay, squeeze on the long sides of the cover while pulling. To remove the cover squeeze on the narrow sides and pull.

9. REMOTE CONTROL EQUIPMENT

a. The Model 5250 Wall Box is designed to operate in conjunction with the Model 2800 two hundred selection Phonograph when equipped with a Model 261 Stepper. The Wall Box may be mounted at some convenient location away from the phonograph and connected to the Stepper by a three-conductor cable, such as Wurlitzer Cable, Part No. 46066. The use of No. 16 gauge conductors for the 24 volt A.C. circuit to the Wall Box will minimize the voltage drop at the wall box resulting in better performance. The Model 261 Stepper will supply power from the phonograph power transformer for a maximum of four Model 5250 Wall Boxes, but any

number of Model 5250 Wall Boxes may be connected to the Model 261 Stepper by the addition of one 222 Booster Transformer, Part No. 46375, for each additional group of four wall boxes. Each group of four wall boxes should be wired to the stepper through separate three-conductor cables. All boxes should be rigidly mounted on a flat surface and set level to properly accept coins. When installing the three-conductor cable, fasten securely every eighteen inches and at all corners. Protect the cable from physical damage wherever it passes through walls or floors. Always leave sufficient slack in the cable at the phonograph to allow the phonograph to be moved for service and cleaning.

The three terminals on the Model 261 Stepper should be connected through the three-conductor cable to the corresponding numbers on the terminal boards in the wall boxes. Either or both wall box terminal boards may be used.

The Wall Box motors operate on twenty-four volts A.C. supplied by the junction power transformer on the amplifier chassis pan and are fused by the three ampere Fustat on the steppers. Number Three terminal on the stepper is the twenty-four volts A.C. from the three ampere Fustat. Number Two terminal is the common ground for both the twenty-four volts and the impulse circuit.

Number One terminal is the impulse circuit.

One five-tenths ampere Slow Blo fuse will be found on the Model 261 Stepper which protects the step magnets and latch release relay winding from short circuits on the wall box line.

NOTE: Opening the safety switch, which is normally held closed by the Record Guide Assembly in front of the turntable, will open the power to the Wall Box Line.

b. The Model 5200 Wall Box is designed to operate with the Model 2810 Phonograph when equipped with a Model 259A or Model 259 Stepper. The Wiring and Mounting of the one hundred selection Wall Box is the same as for the two hundred selection wall box. A maximum of four Model 5200 Wall Boxes may be connected to one line. Any additional wall boxes require the installation of one Model 222 Booster Transformer, Part No. 46375, for each group of four wall boxes.

The first group of wall boxes connected to the stepper is protected by the three ampere Fustat mounted on the stepper assembly. When booster transformers are used each power supply will have a three ampere Fustat to protect those boxes wired to it.

Two cartridge type fuses are mounted on the 259A Stepper. The five-tenths Slow Blo fuse protects the two step magnets and the latch release

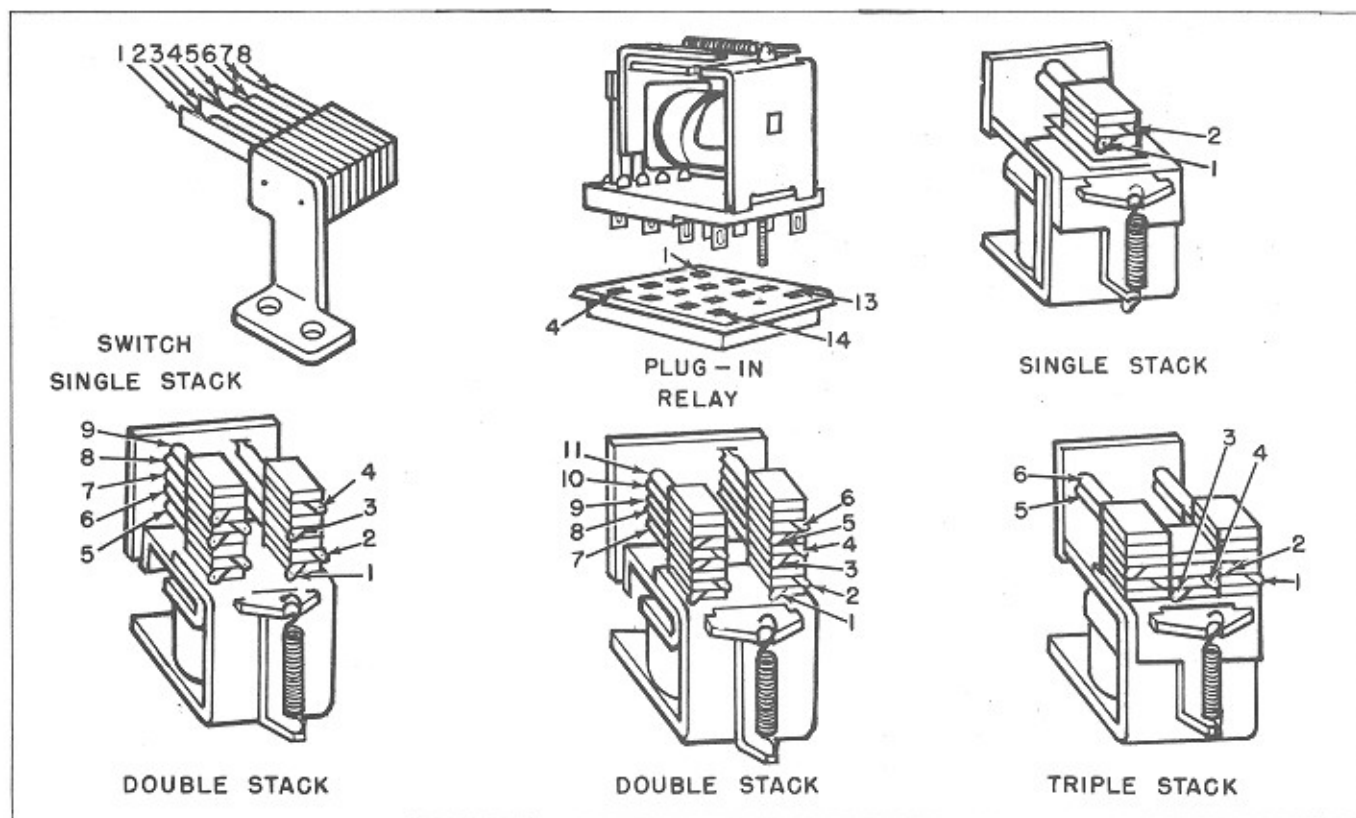


FIG. 77. METHOD OF NUMBERING RELAY CONTACTS

relay winding from short circuits on the wall box lines. The eight-tenths ampere Slow Blo fuse is wired in the selector solenoids circuit protecting them from overload.

c. KIT 169A REMOTE LOUDNESS CONTROL

Kit 169A, Part No. 121007, is a motor driven remote loudness control system which includes a reject switch. The motor and gear assembly is designed to be installed in the amplifier chassis pan by removing a cover plate. The as-

sembly drops into position and is held in place by the cover plate mounting screws. A connecting link is provided, which requires no tools to install, to transfer the motor torque to the manual loudness control, part of the 545 Amplifier. By means of a disc clutch built into the motor assembly, the manual loudness control is always operative after a remote loudness control has been installed. Connection is made to the remote control switch and reject button assembly through any five-conductor cable of number 22 gauge wire or larger. No shielding is required.

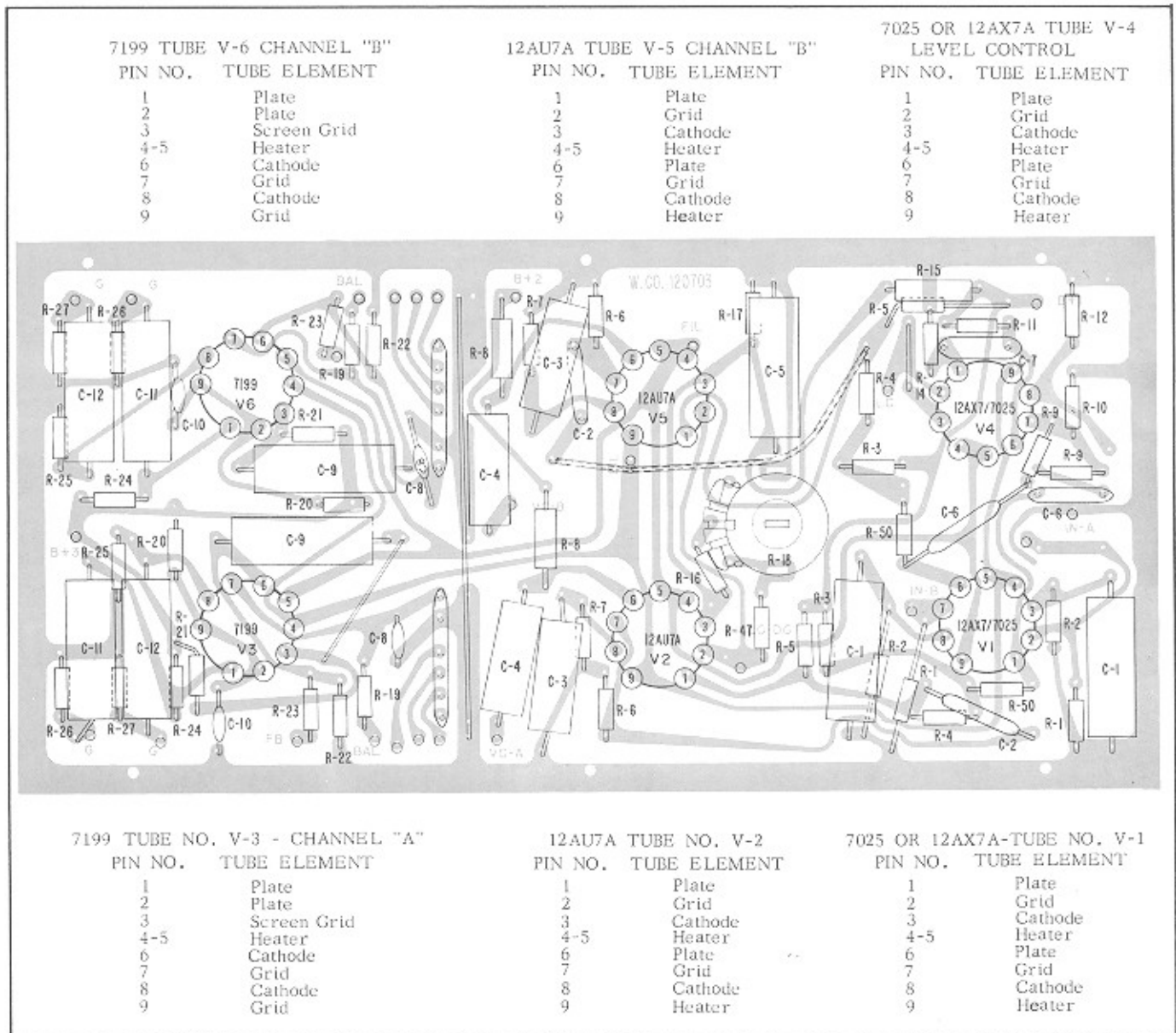


FIG. 78. PRINTED CIRCUIT BOARD, MODEL 545 DUAL CHANNEL AMPLIFIER, ASSEMBLY NO. 123855

NOTE: For Code Values See Schematic Wiring Diagram No. 123862 or the Bill of Materials on Page No. 57

To duplicate the condition as shown in Figure 78 stand the Model 545 Amplifier on a convenient work bench with the pivot bracket up and mount a service lamp near the back side of the printed board.

WIRING DIAGRAM COLOR CODE

MODEL 2800 SERIES

2810	2800	SOLID COLOR WIRE	TRACER	2810-2800	SOLID COLOR WIRE	TRACER
A1	A	Tan	Brown	39	White	None
A6	B	Red	Brown	40-140	Black	None
B1	C	Orange	Brown	41	Brown	Yellow
B6	D	Yellow	Brown	42	Red	Yellow
C1	E	Lt. Green	Brown	43	Orange	Yellow
C6	F	Lt. Blue	Brown	44	Tan	Yellow
D1	G	Purple	Brown	45	Dr. Green	Yellow
D6	H	Gray	Brown	46	Dr. Blue	Yellow
E1	J	White	Brown	47-147	Purple	Yellow
E6	K	Pink	Brown	48	Gray	Yellow
F1	L	Brown	Black	49	White	Yellow
F6	M	Red	Black	50	Black	Yellow
G1	N	Orange	Black	51	Brown	Green
G6	P	Yellow	Black	52	Red	Green
H1	Q	Lt. Green	Black	53	Orange	Green
H6	R	Lt. Blue	Black	54	Yellow	Green
J1	S	Purple	Black	55	Tan	Green
J6	T	Gray	Black	56	Lt. Blue	Green
K1	U	White	Black	57	Purple	Green
K6	V	Tan	Black	58	Gray	Green
				59	White	Green
1	1	Brown	Orange	60	Black	Green
2	2	Red	Orange	61	Brown	Blue
	3	Tan	Orange	62	Red	Blue
4	4	Yellow	Orange	63	Orange	Blue
5	5	Lt. Green	Orange	64	Yellow	Blue
	6	Lt. Blue	Orange	65	Lt. Green	Blue
	7	Purple	Orange	66	Tan	Blue
	8	Gray	Orange	67	Pink	Blue
	9	White	Orange	68	Gray	Blue
	0	Black	Orange	69	White	Blue
				70	Black	Blue
2810	2800			71	Brown	Purple
				72	Red	Purple
	21	Brown	Red	73	Orange	Purple
	22	Tan	Red	74	Yellow	Purple
	23	Orange	Red	75	Lt. Green	Purple
	24	Yellow	Red	76	Lt. Blue	Purple
	25	Lt. Green	Red	77	Tan	Purple
	26	Lt. Blue	Red	78	Gray	Purple
	27	Purple	Red	79	White	Purple
	28	Gray	Red	80	Black	Purple
	29	White	Red	81	Brown	White
	30	Black	Red	82	Red	White
	31	Tan	None	83	Orange	White
	32	Red	None	84	Yellow	White
	33	Orange	None	85	Lt. Green	White
	34	Yellow	None	86	Lt. Blue	White
	35	Dr. Green	None	87	Purple	White
	36	Dr. Blue	None	88	Gray	White
	37	Purple	None	89	Tan	White
	38	Gray	None	90	Black	White

MODEL 2800 COMPLETE PHONO

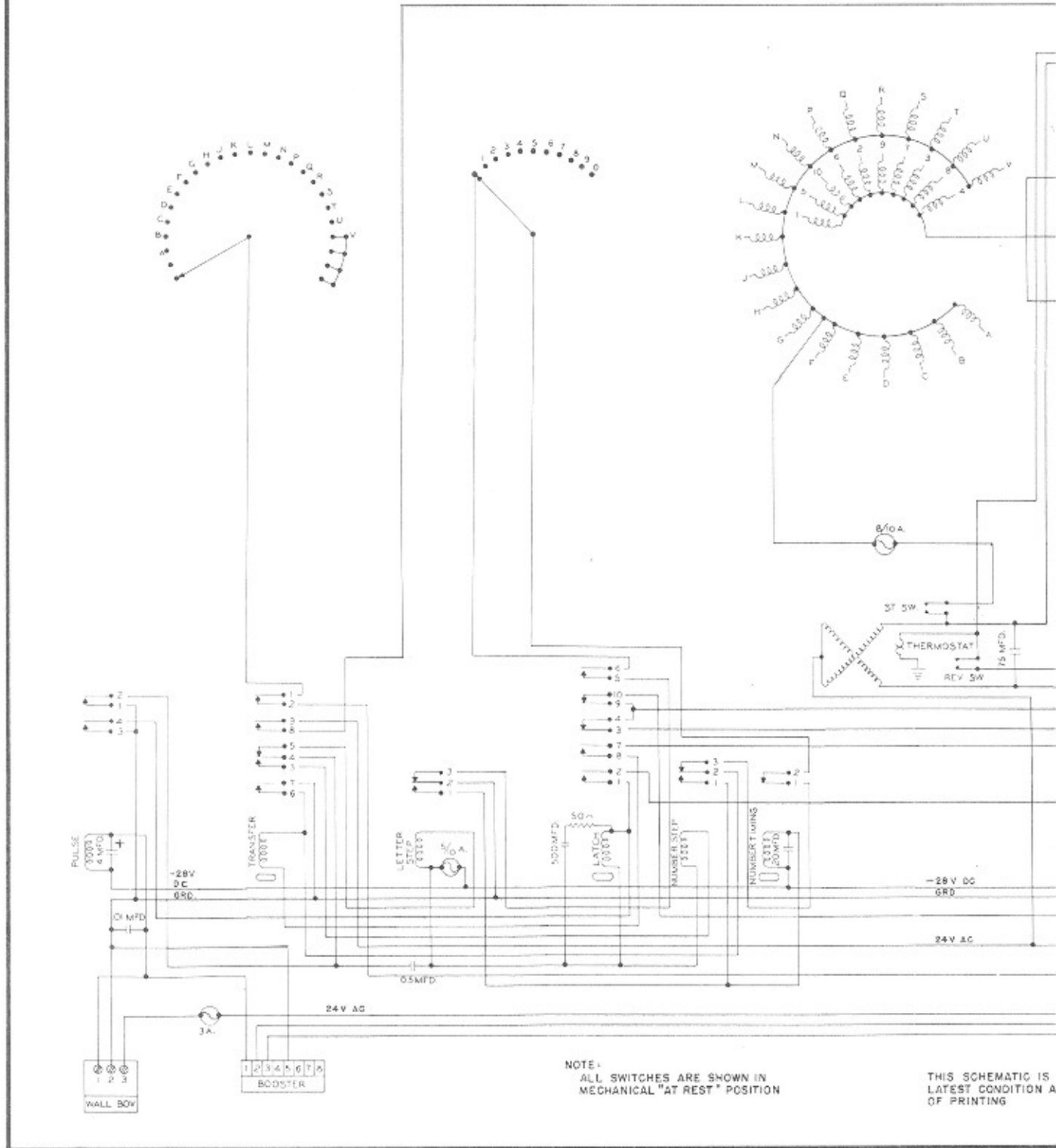
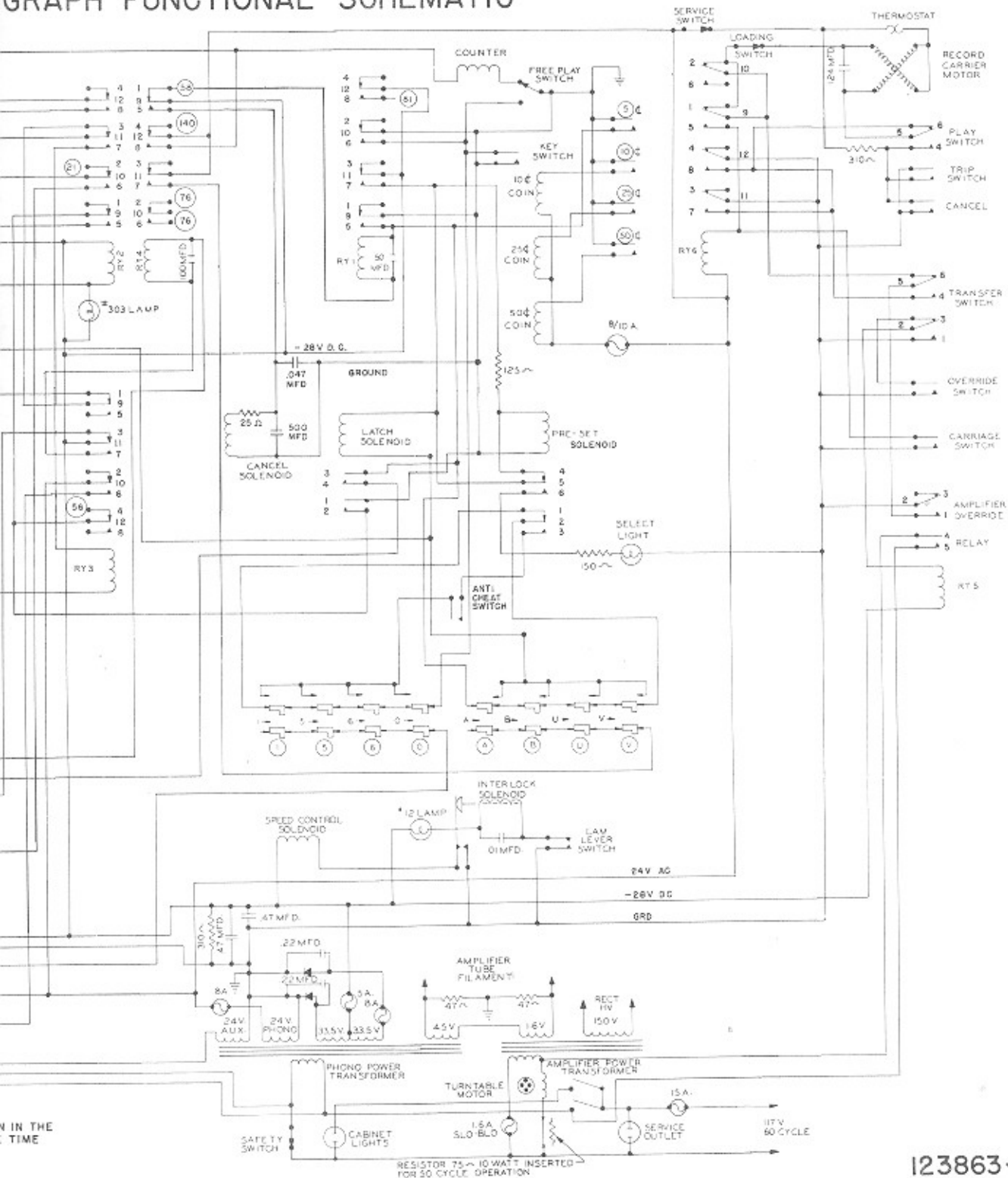


FIG. 79. MODEL 2800 COMPLETE

GRAPH FUNCTIONAL SCHEMATIC



123863-4

PHONOGRAPH FUNCTIONAL SCHEMATIC

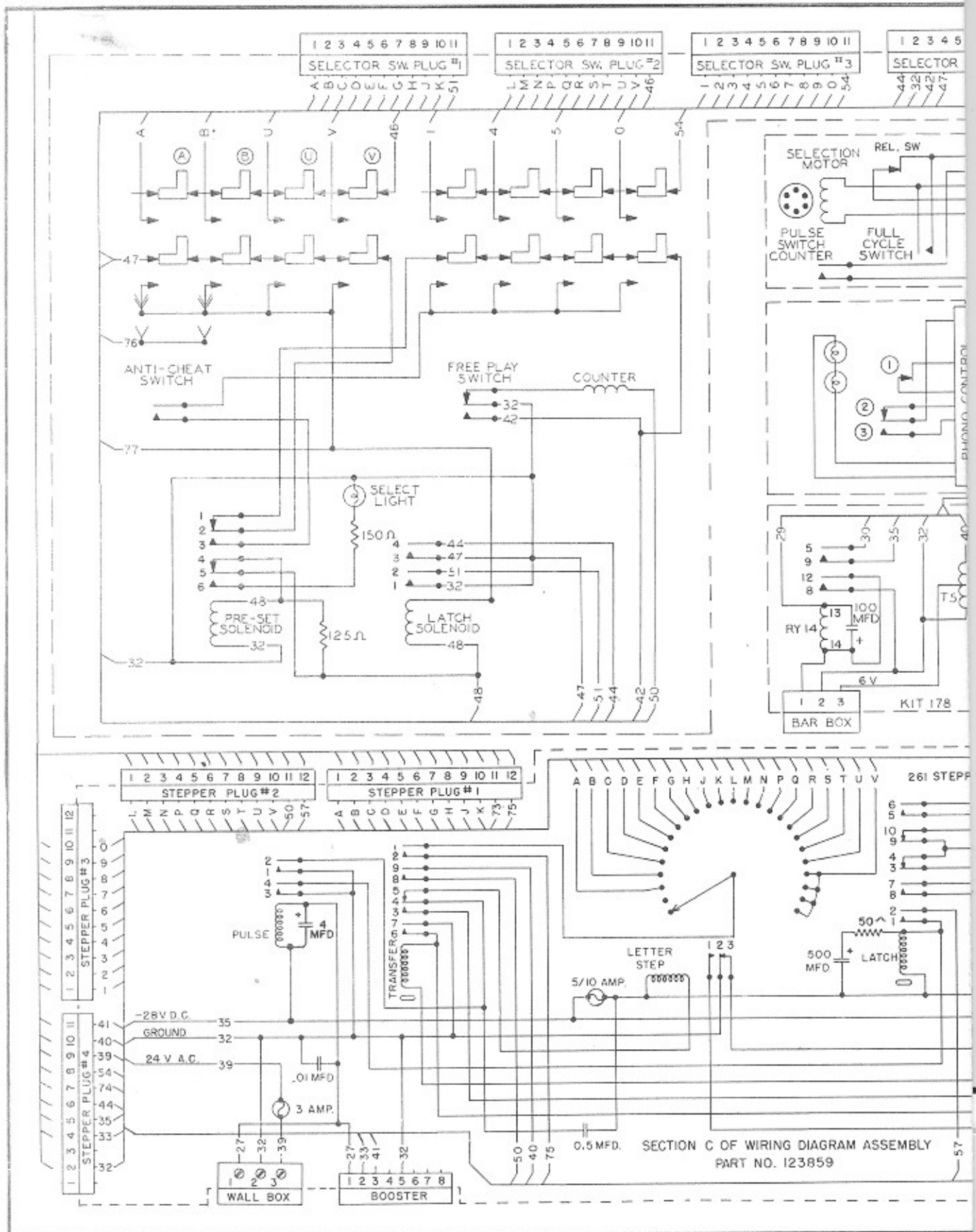
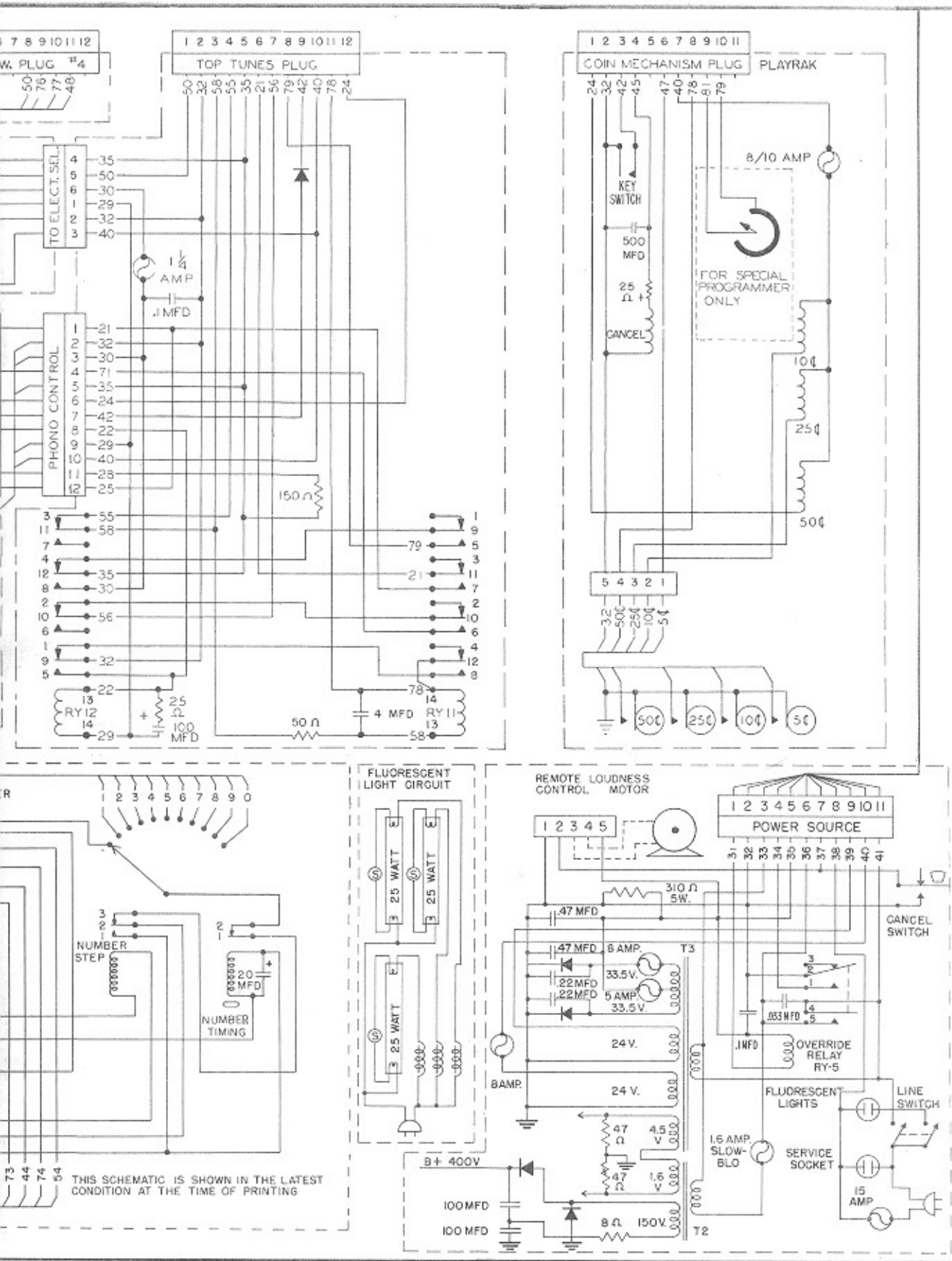


FIG. 80. MODEL 2800 WIRING DIAGRAM,



THIS SCHEMATIC IS SHOWN IN THE LATEST CONDITION AT THE TIME OF PRINTING

SECTION "C" OF ASSEMBLY 123859

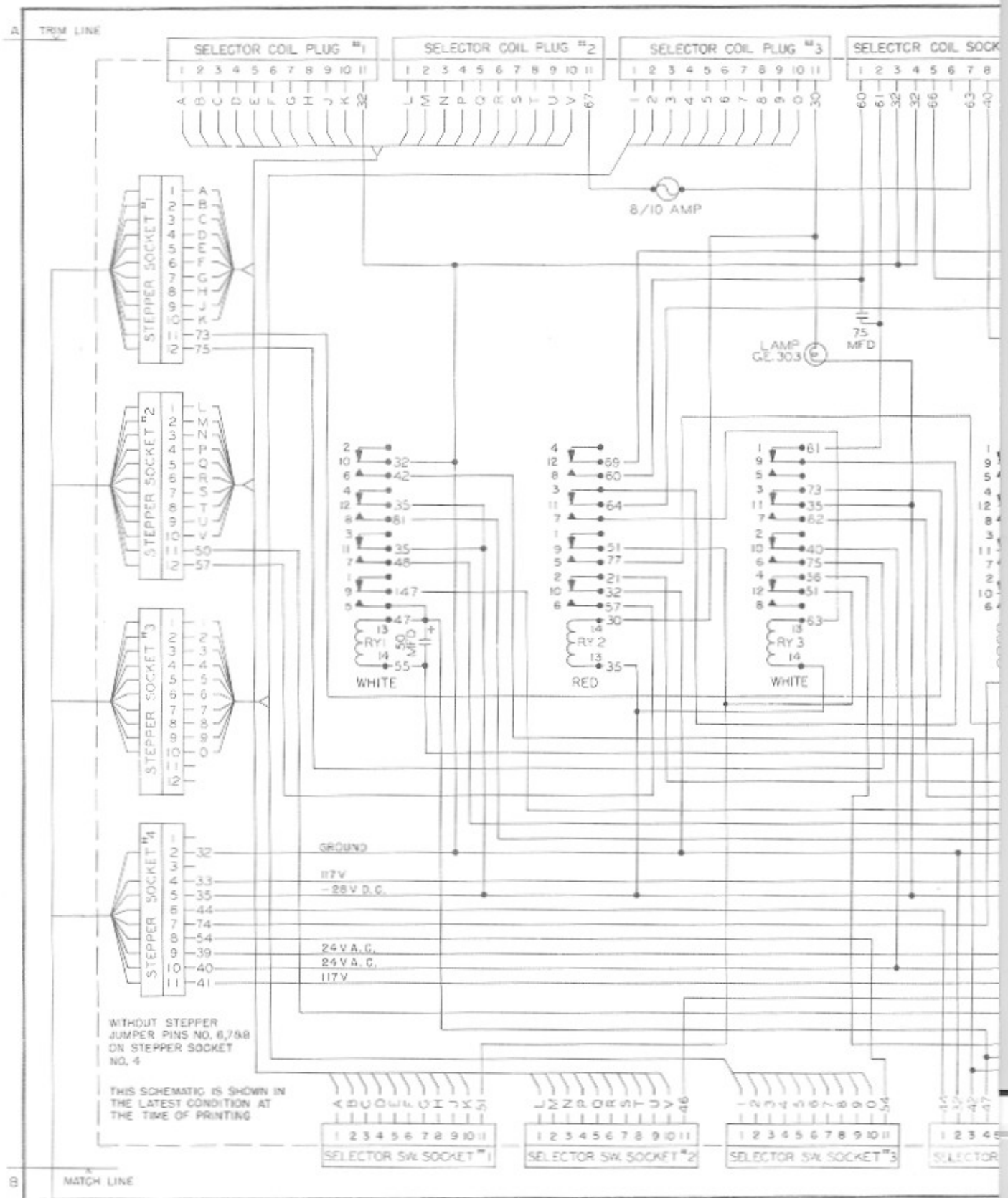
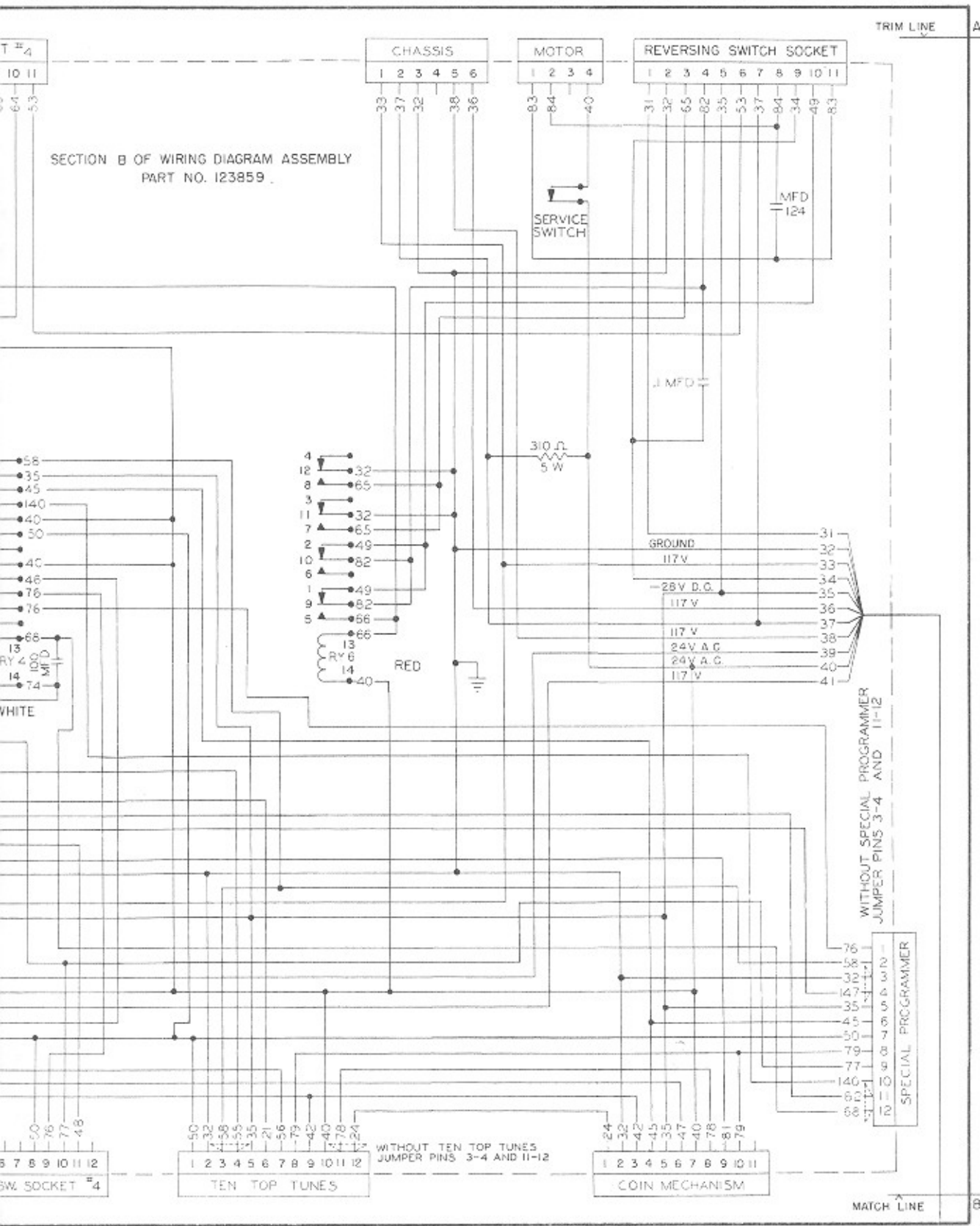


FIG. 81. MODEL 2800 WIRING DIAGR



AM, SECTION "B" OF ASSEMBLY 123859

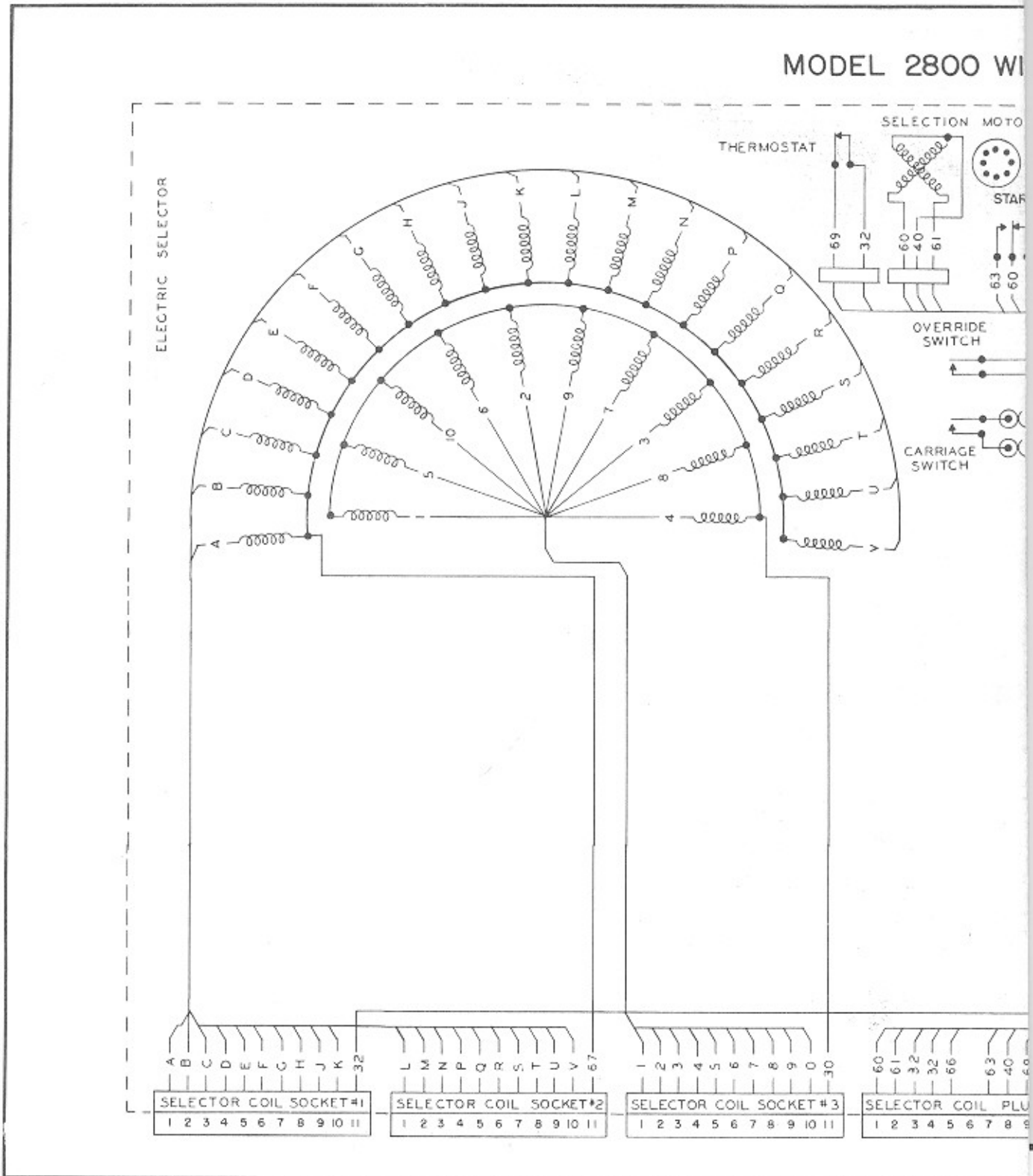
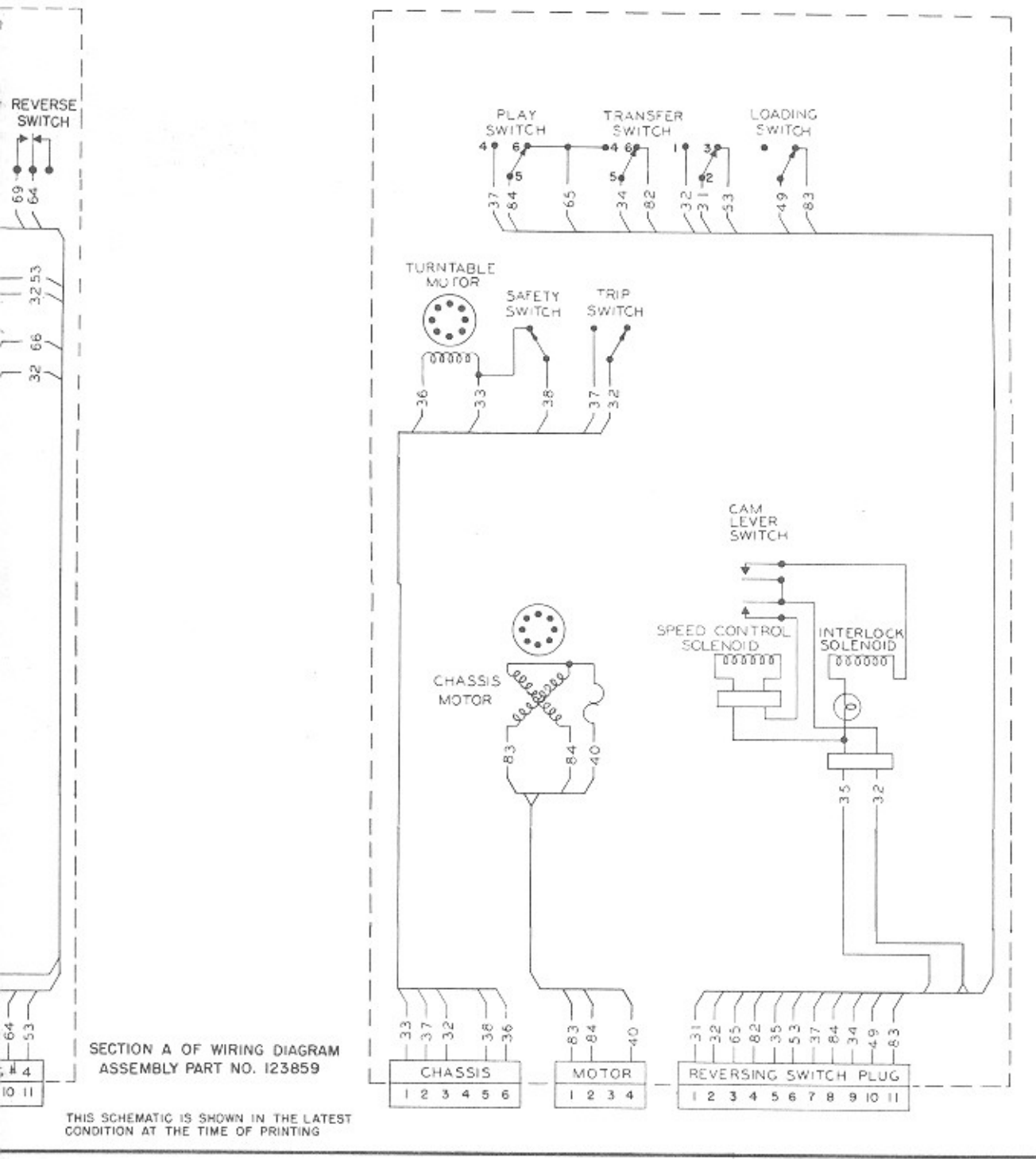


FIG. 82. MODEL 2800 WIRING DIAGRAM

WIRING DIAGRAM



SECTION "A" OF ASSEMBLY 123859

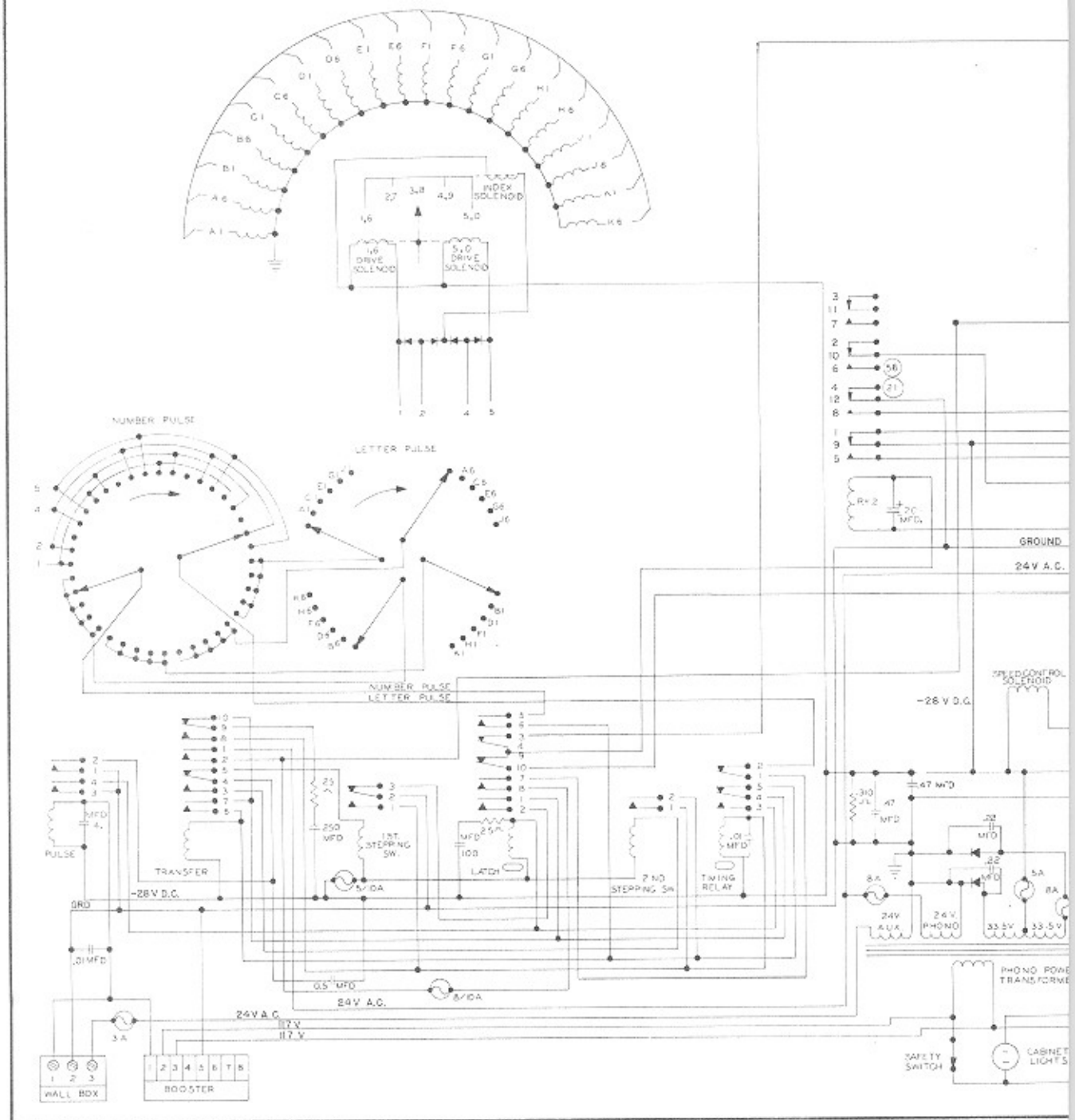
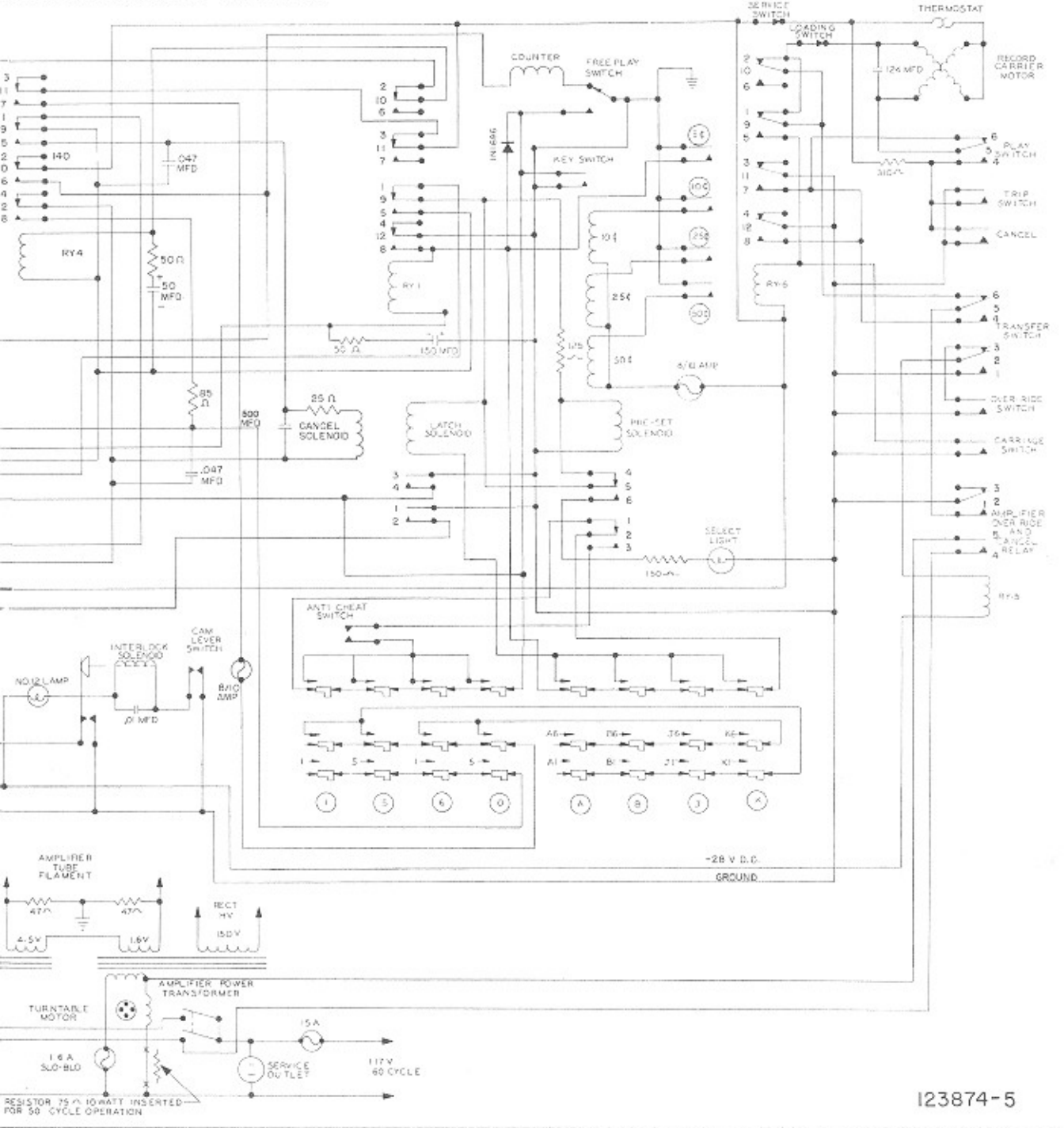


FIG. 83. MODEL 2810 COMPLETE PH

GRAPH FUNCTIONAL SCHEMATIC



I23874-5

NOGRAPH FUNCTIONAL SCHEMATIC

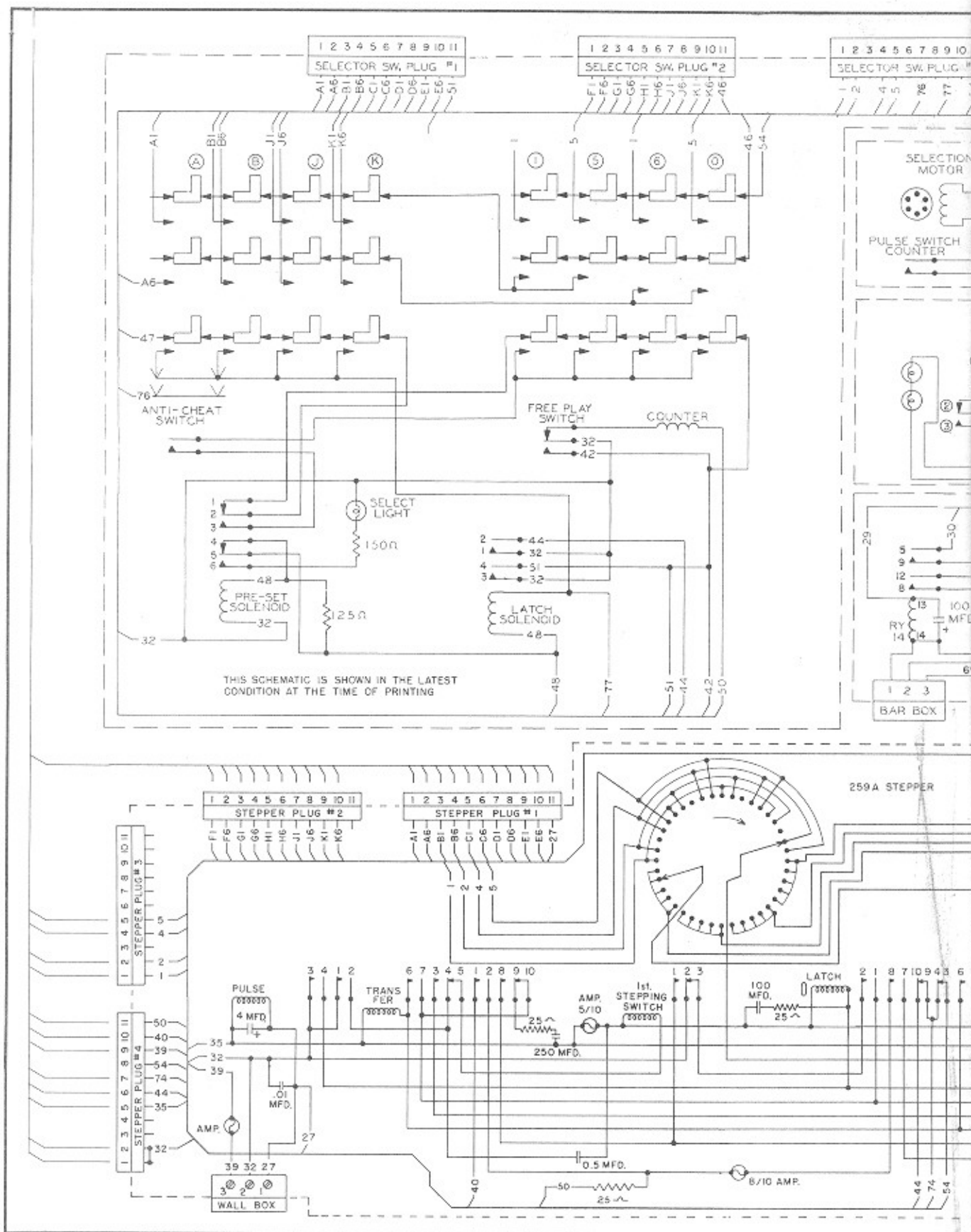
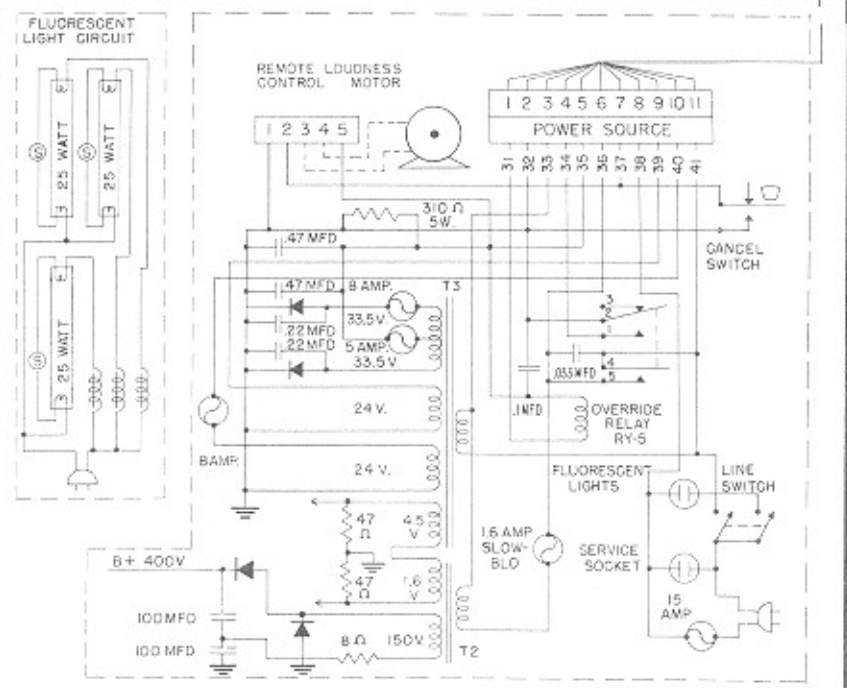
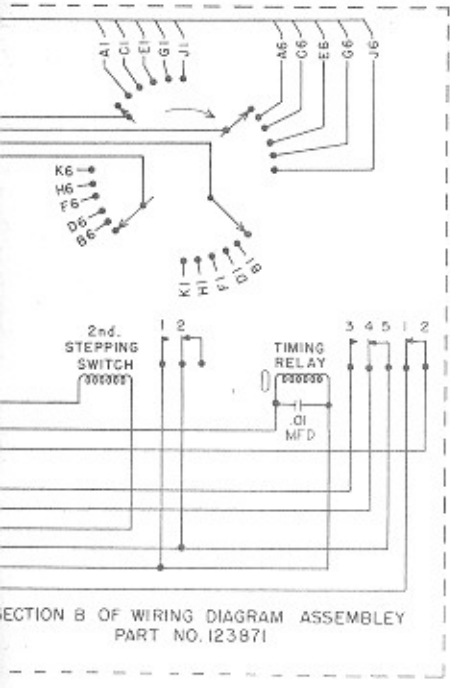
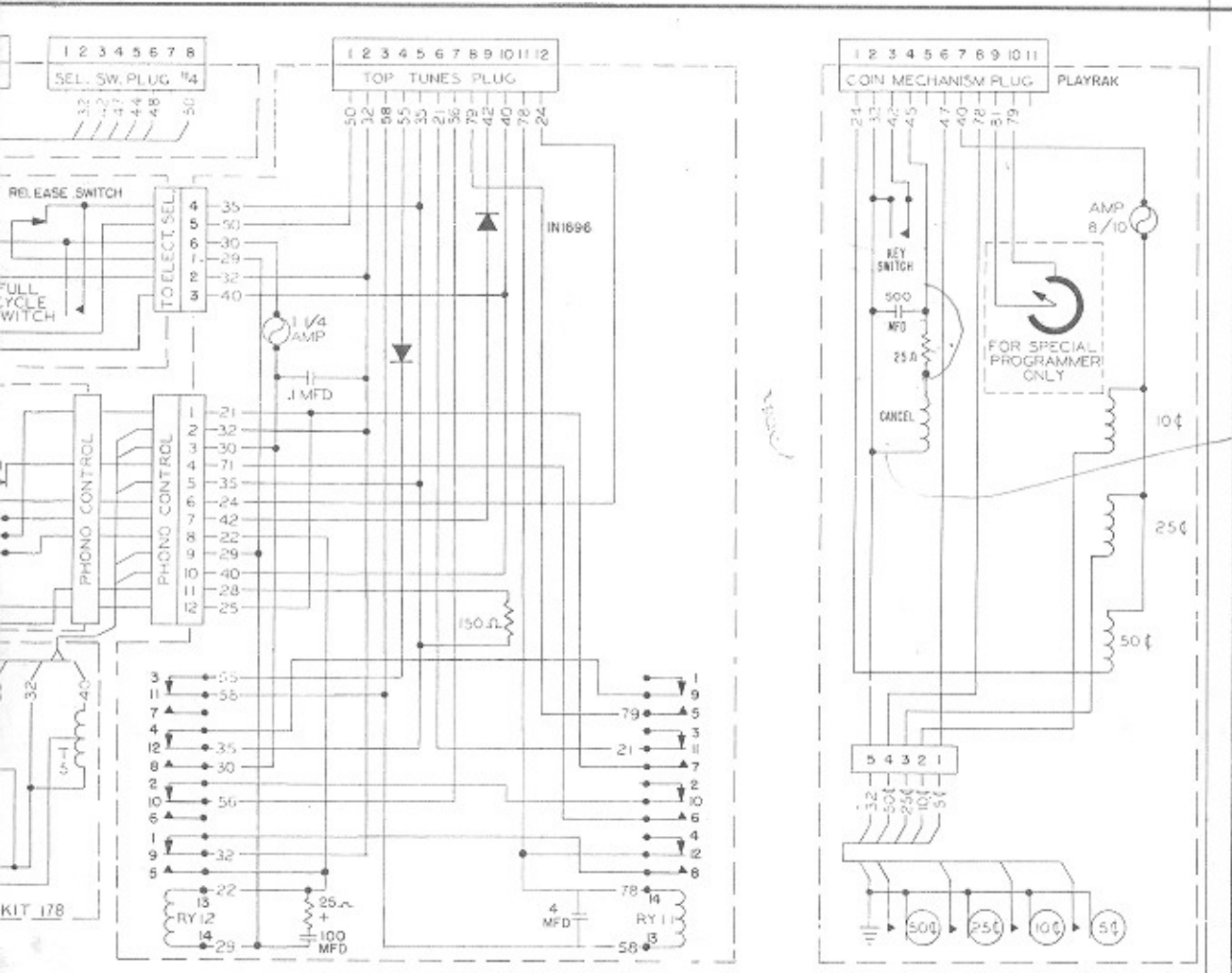
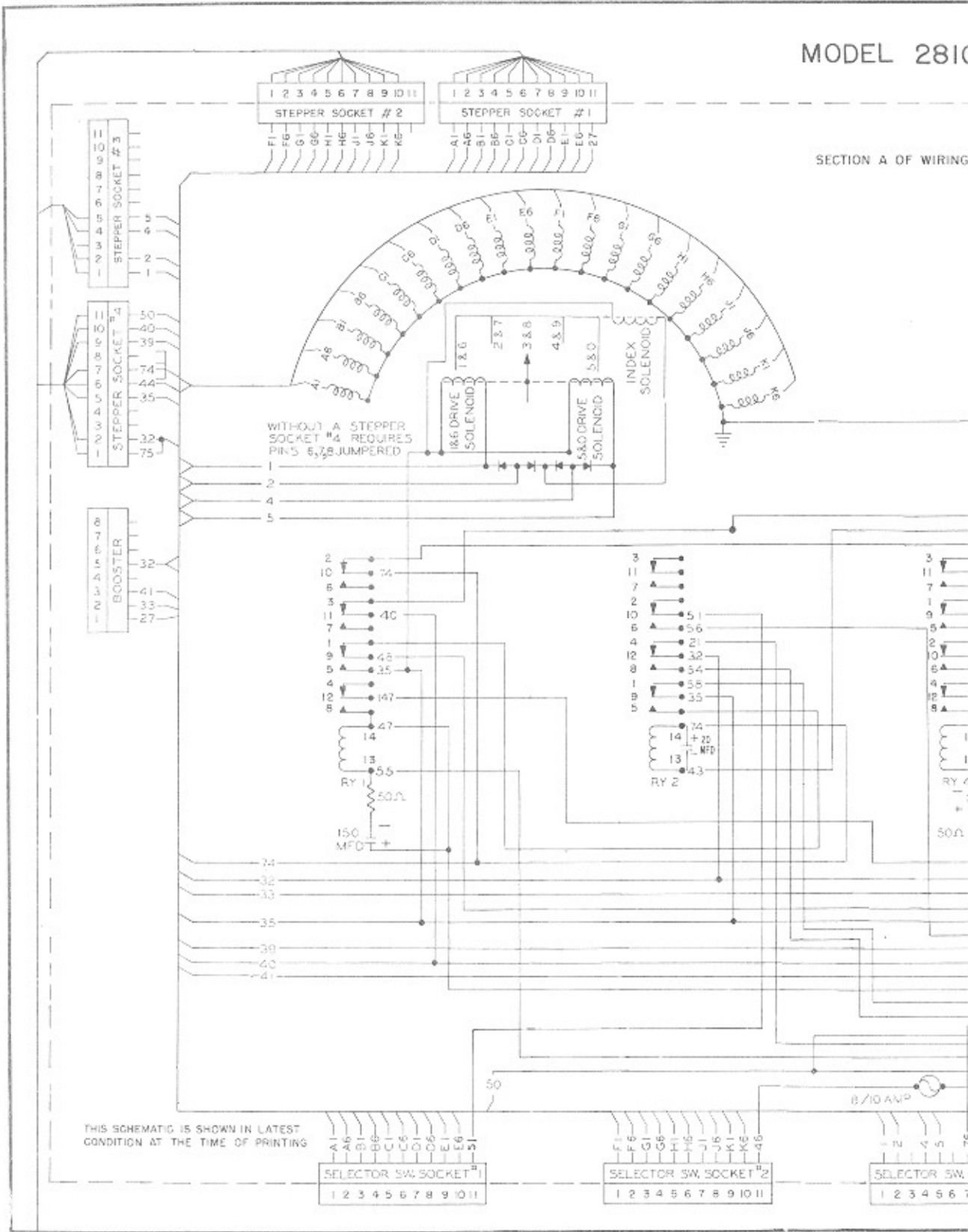


FIG. 84. MODEL 2810 WIRING DIAGRAM

make change if RY4 contact
is burned.



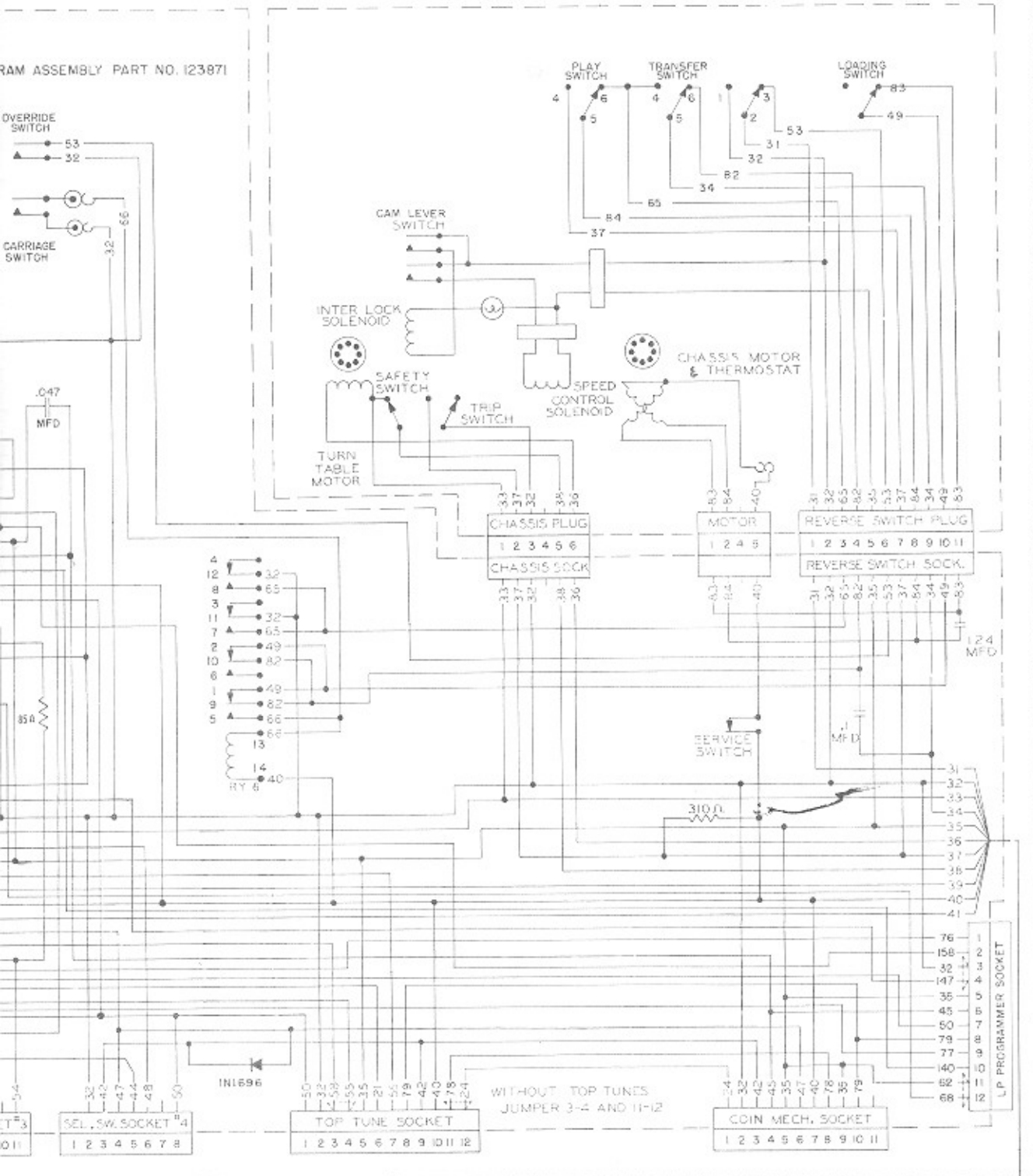
SECTION "B" OF ASSEMBLY 123871



THIS SCHEMATIC IS SHOWN IN LATEST
CONDITION AT THE TIME OF PRINTING

FIG. 85. MODEL 2810 WIRING DIA

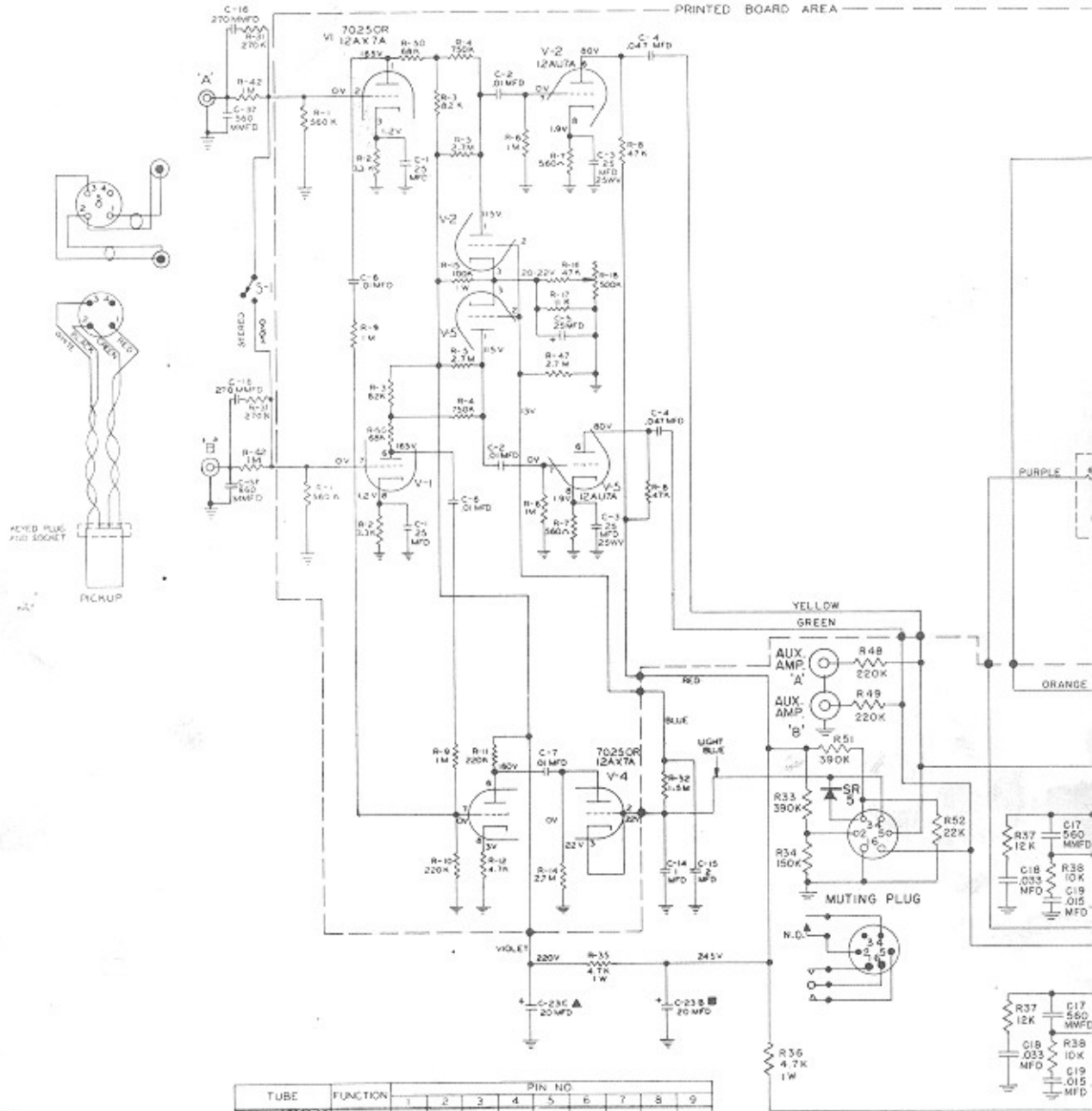
WIRING DIAGRAM



AM, SECTION "A" OF ASSEMBLY 123871

SOUND SYSTEM SCHEMATIC

PRINTED BOARD AREA



NOTE:
ALL SWITCHES ARE SHOWN IN MECHANICAL "AT REST" POSITION

THIS SCHEMATIC IS SHOWN IN THE LATEST CONDITION AT THE TIME OF PRINTING

TUBE	FUNCTION	PIN NO.									
		1	2	3	4	5	6	7	8	9	
V-1	7025OR 12AX7A	V.A.	300MV	45MV	0MV	3.05V	3.05V	330MV	45MV	0MV	3.05V
V-4	7025OR 12AX7A	V.A.-RECT.	500MV	0	0MV	3.05V	3.05V	900MV	40MV	30MV	3.05V
V-2, V-5	12AU7A	R - V.A.	14 MV	0	0	3.05V	3.05V	160MV	14 MV	4 MV	3.05V
V-3, V-6	7025OR 12AX7A	V.A. - β	750MV	820MV	35MV	3.05V	3.05V	35MV	28MV	750MV	820MV
V-7, V-8	6973	POWER AMP.	0	N.C.	750MV	3.05V	3.05V	750MV	20MV	0	14V

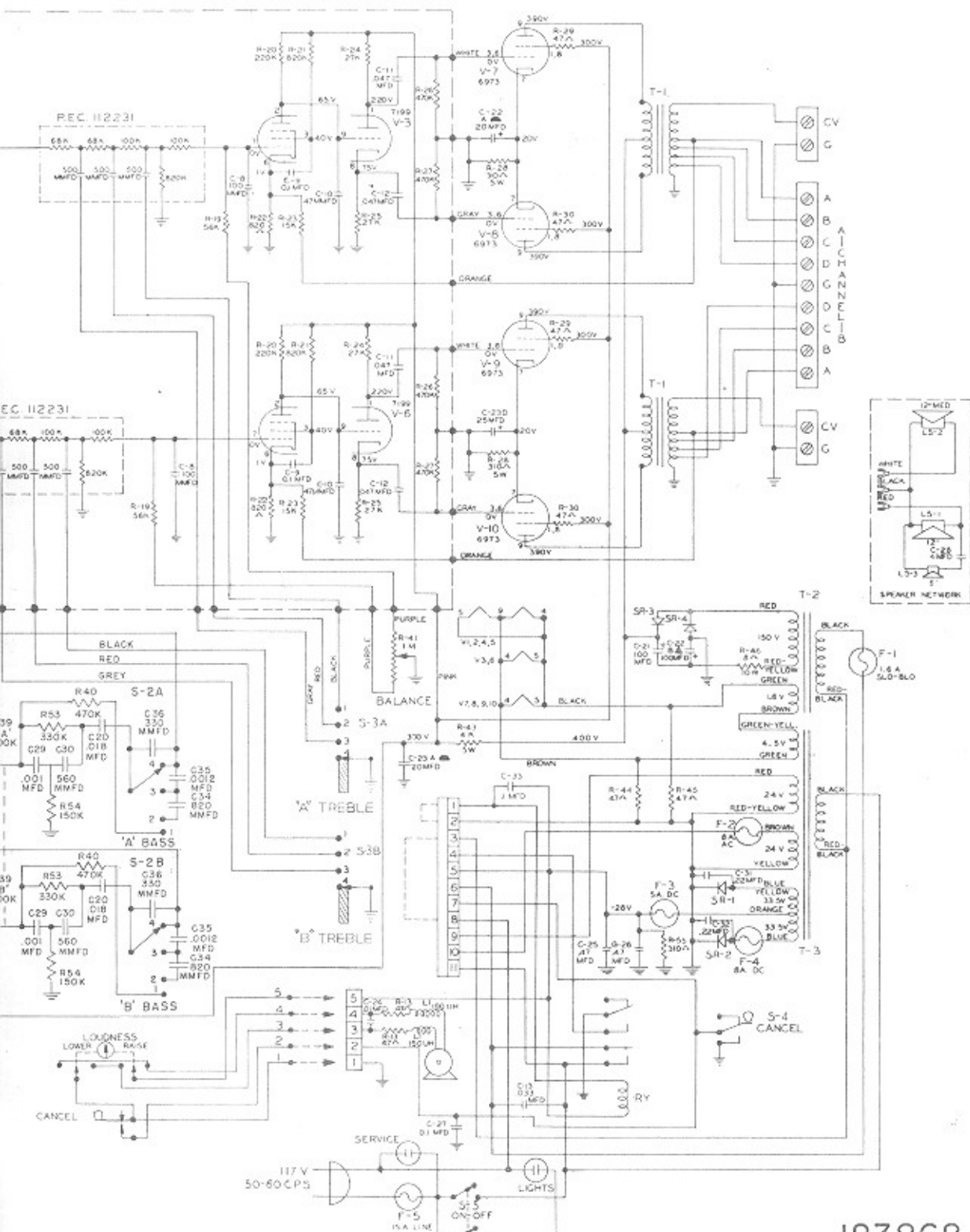
VOLTAGES INDICATED ON SCHEMATIC ARE D.C. A.C. VOLTAGES MEASURED FROM GROUND. LINE VOLTAGE 117V D.C. MEASURED WITH VTVM

A.C. SIGNAL CHART

USE BALLANTINE AC-VTVM OR HEATHKIT VOLTMETER. AC-VTVM APPLY 10 MILLIVOLT AT 1000 CPS. SIGNAL TO INPUT JACKS A & B. LOUDNESS CONTROL FULL CLOCKWISE. BASS & TREBLE CONTROLS TO 4" BALANCE CONTROL SET IN MIDDLE. USE 5.0 20W RESISTOR AS OUTPUT LOAD FOR EACH CHANNEL.

FIG. 86. SOUND SYSTEM SCH

MODEL 545 AMPLIFIER



123862-3

MODEL 545 AMPLIFIER

Series

Wurlitzer

BILL OF MATERIAL 545 AMPLIFIER

ITEM	PART NO.	VALUE	REMARKS	ITEM	PART NO.	VALUE	REMARKS		
R-1	72258-32	560K	1/2 W.	+10%	C-8	71608-17	100MMFD CERAMIC		
R-2	72204-32	3.3K	1/2 W.	+10%	C-9	74321-14	0.1MFD 400V		
R-3	72238-31	82K	1/2 W.	+ 5%	C-10	70526-340	47MMFD CERAMIC		
R-4	72261-31	750K	1/2 W.	+ 5%	C-11	74317-14	.047MFD 400V		
R-5	72274-31	2.7MEG	1/2 W.	+ 5%	C-12	74317-14	.047MFD 400V		
R-6	72264-32	1 MEG	1/2 W.	+10%	C-13	74567-27	.033MFD 100GV		
R-7	72186-32	560 OHM	1/2 W.	+10%	C-14	70634-220	1 MFD 200V		
R-8	72376-32	47K	1 W.	+10%	C-15	73876	2 MFD 50V		
R-9	72264-32	1 MEG	1/2 W.	+10%	C-16	71618-44	270MMFD CERAMIC		
R-10	72248-32	220K	1/2 W.	+10%	C-17	71626-44	560MMFD CERAMIC		
R-11	72248-32	220K	1/2 W.	+10%	C-18	74315-11	.033MFD 100V		
R-12	72208-32	4.7K	1/2 W.	+10%	C-19	74311-11	.015 MFD 100V		
R-13	72160-32	47 OHM	1/2 W.	+10%	C-20	74312-12	.018 MFD 200V		
R-14	72274-32	2.7MEG	1/2 W.	+10%	C-21	71595	100 MFD 250V ELECT		
R-15	72384-31	100K	1 W.	+ 5%	C-22A	71594	20MFD 400V ELECT		
R-16	72232-32	47K	1/2 W.	+10%	C-22B		100MFD 250V ELECT		
R-17	72217-31	1K	1/2 W.	+ 5%	C-23A		20MFD 400V ELECT		
R-18	64880	500K	BIAS CONTROL		C-23B	74907	20MFD 400V ELECT		
R-19	72234-32	56K	1/2 W.	+10%	C-23C		20MFD 400V ELECT		
R-20	72248-32	220K	1/2 W.	+10%	C-23D		25MFD 50V ELECT		
R-21	72262-32	820K	1/2 W.	+10%	C-24	71657-17	.01MFD CERAMIC		
R-22	72190-32	820 OHM	1/2 W.	+10%	C-25	74581-24	.47MFD 400V		
R-23	72220-32	15K	1/2 W.	+10%	C-26	74581-24	.47MFD 400V		
R-24	72226-32	27K	1/2 W.	+10%	C-27	74321-14	0.1MFD 400V		
R-25	72226-32	27K	1/2 W.	+10%	C-28	74981	4MFD 25V NONPOLARIZED		
R-26	72256-32	470K	1/2 W.	+10%	C-29	71632-44	.001MFD CERAMIC		
R-27	72256-32	470K	1/2 W.	+10%	C-30	71626-44	560MMFD CERAMIC		
R-28	70684-2	310 OHM	5 WATT		C-31	74325-24	.22MFD 400V		
R-29	72160-32	47 OHM	1/2 W.	+10%	C-32	74325-24	.22MFD 400V		
R-30	72160-32	47 OHM	1/2 W.	+10%	C-33	74321-14	.1 MFD 400V		
R-31	72250-32	270K	1/2 W.	+10%	C-34	71630-44	820MMFD CERAMIC		
R-32	72268-31	1.5 MEG	1/2 W.	+ 5%	C-35	76042-41	.0012MFD DISC		
R-33	72254-32	390K	1/2 W.	+10%	C-36	71620-44	330MMFD CERAMIC		
R-34	72244-32	150K	1/2 W.	+10%	C-37	71626-44	560MMFD CERAMIC		
R-35	72352-32	4.7K	1 W.	+10%	S-1	116724	S.P.S.T.	MONO-STEREO BASS SW TREBLE SW CANCEL POWER	
R-36	72352-32	4.7K	1 W.	+10%	S-2	123982	4 POS. SHORTING		
R-37	72218-32	12K	1/2 W.	+10%	S-3	120706	4 POS. SHORTING		
R-38	72216-31	10K	1/2 W.	+ 5%	S-4	68770	S.P.D.T.		
R-39	120699	500K	DUAL LOUDNESS		S-5	121301	D.P.S.T.		
R-40	72256-32	470K	1/2 W.	+10%	T-1	120691	AUDIO OUTPUT		
R-41	123967	1 MEG	BALANCE		T-2	116645	POWER		
R-42	72264-32	1 MEG	1/2 W.	+10%	T-3	120689	JUNCTION		
R-43	70688-2	4K	5 WATT	+10%	F-1	71591-15	1.6 AMP		SLOW-BLO
R-44	72160-32	47 OHM	1/2 W.	+10%	F-2	71590-33	8 AMP.		
R-45	72160-32	47 OHM	1/2 W.	+10%	F-3	71590-27	5 AMP.		
R-46	73476-2	8 OHM	10 WATT	+10%	F-4	71590-33	8 AMP.		
R-47	72274-31	2.7 MEG	1/2 W.	+ 5%	F-5	71590-48	15 AMP.		
R-48	72248-32	220K	1/2 W.	+10%	LS-1	120777	16 OHM	12 IN. SPEAKER	
R-49	72248-32	220K	1/2 W.	+10%	LS-2	117754	8 OHM	12 IN. SPEAKER	
R-50	72236-31	68K	1/2 W.	+ 5%	LS-3	124121	8 OHM	6" IN. SPEAKER	
R-51	72254-32	390K	1/2 W.	+10%	L1	121291	100 UH	CHOKE	
R-52	72224-32	22K	1/2 W.	+10%	RY	120694	28 V.D.C.	RELAY	
R-53	72252-32	330K	1/2 W.	+10%	P.E.C.	112231		TREBLE TONE	
R-54	72244-32	150K	1/2 W.	+10%	SR-1	120696		RECTIFIER & BRACKET ASSY.	
R-55	70684-2	310 OHM	5 WATT		SR-2	120696		RECTIFIER & BRACKET ASSY.	
C-1	73842-21	25MFD	25V ELECT		SR-3	71588-6			
C-2	71657-17	.01MFD	CERAMIC		SR-4	71588-8 OPT.	SILICON	500 MA	
C-3	73842-21	25MFD	25V			71588-10			
C-4	74317-14	.047MFD	400V		SR-5	71588-12	SILICON	RCA	
C-5	73842-21	25MFD	25V ELECT						
C-6	71657-17	.01MFD	CERAMIC						
C-7	74845	.01MFD	400V						

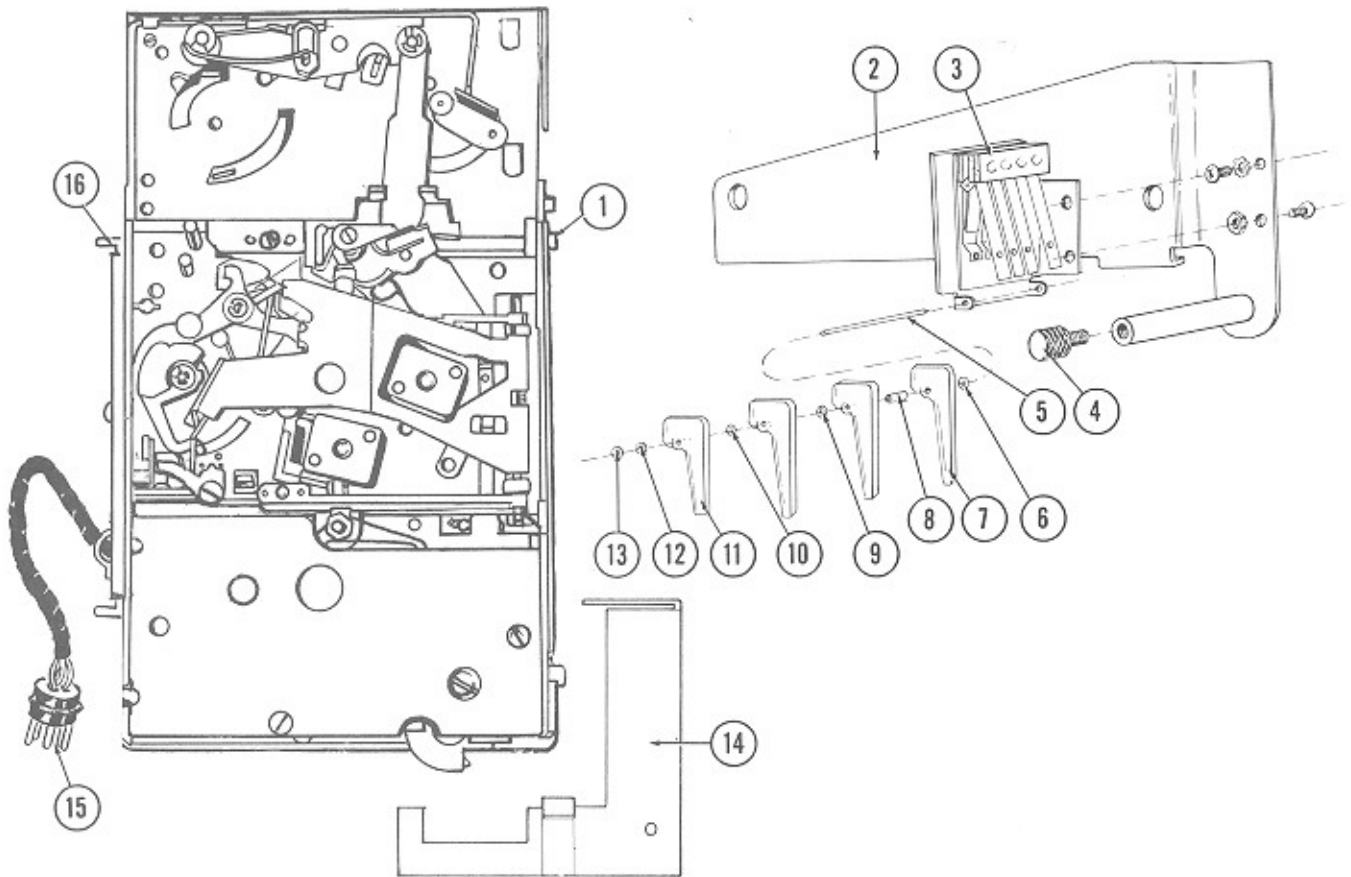


FIG. 87. SLUG REJECTOR ASSEMBLY

1. Slug Rejector, 5, 10, 25 & 50 Cents	69936	9. Copper Washer	119107-F
2. Mounting Bracket & Spacer Assy.	120962	10. Copper Washer	119107-F
3. Coin Switch Assy.	119107	11. Short Paddle	119107-B
4. Thumb Screw	35745	12. Iron Washer	119107-E
5. Shaft	119107-C	13. Iron Washer	119107-E
6. Copper Washer	119107-F	14. Angle & Guard Assy.	122834
7. Long Paddle (3)	119107-A	15. Plug, 5, Miniature	123619
8. Spacer	119107-D	16. Bracket, Pivot	123663

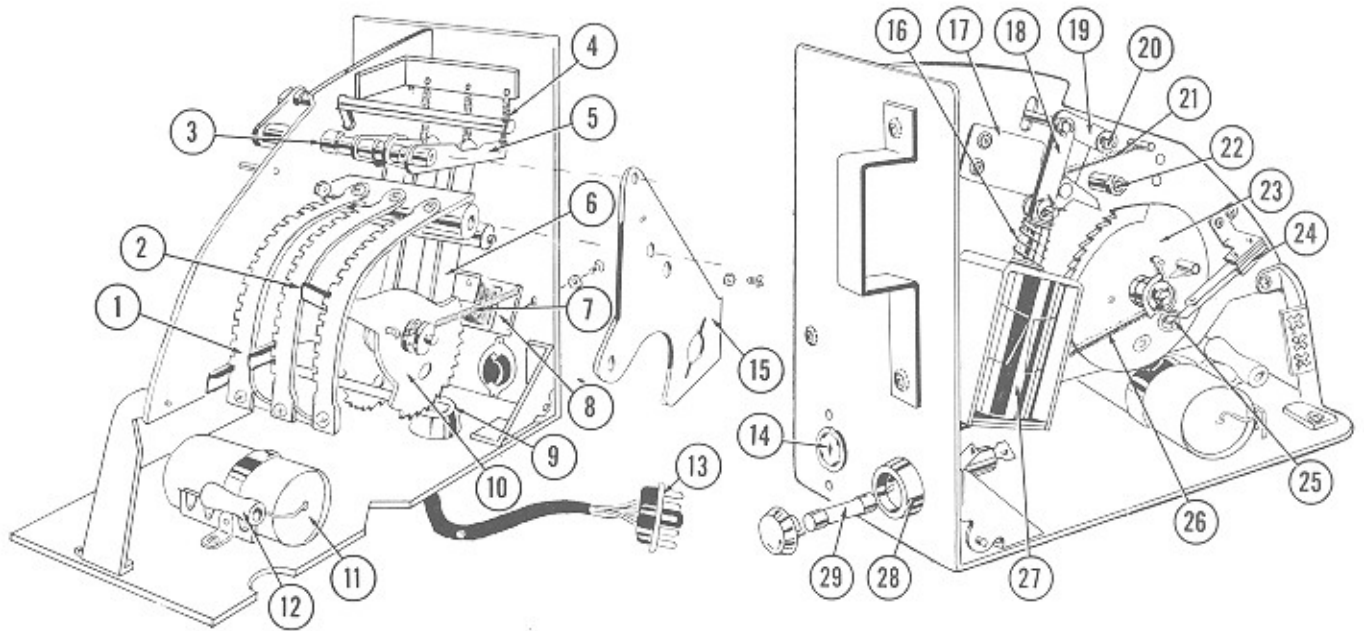
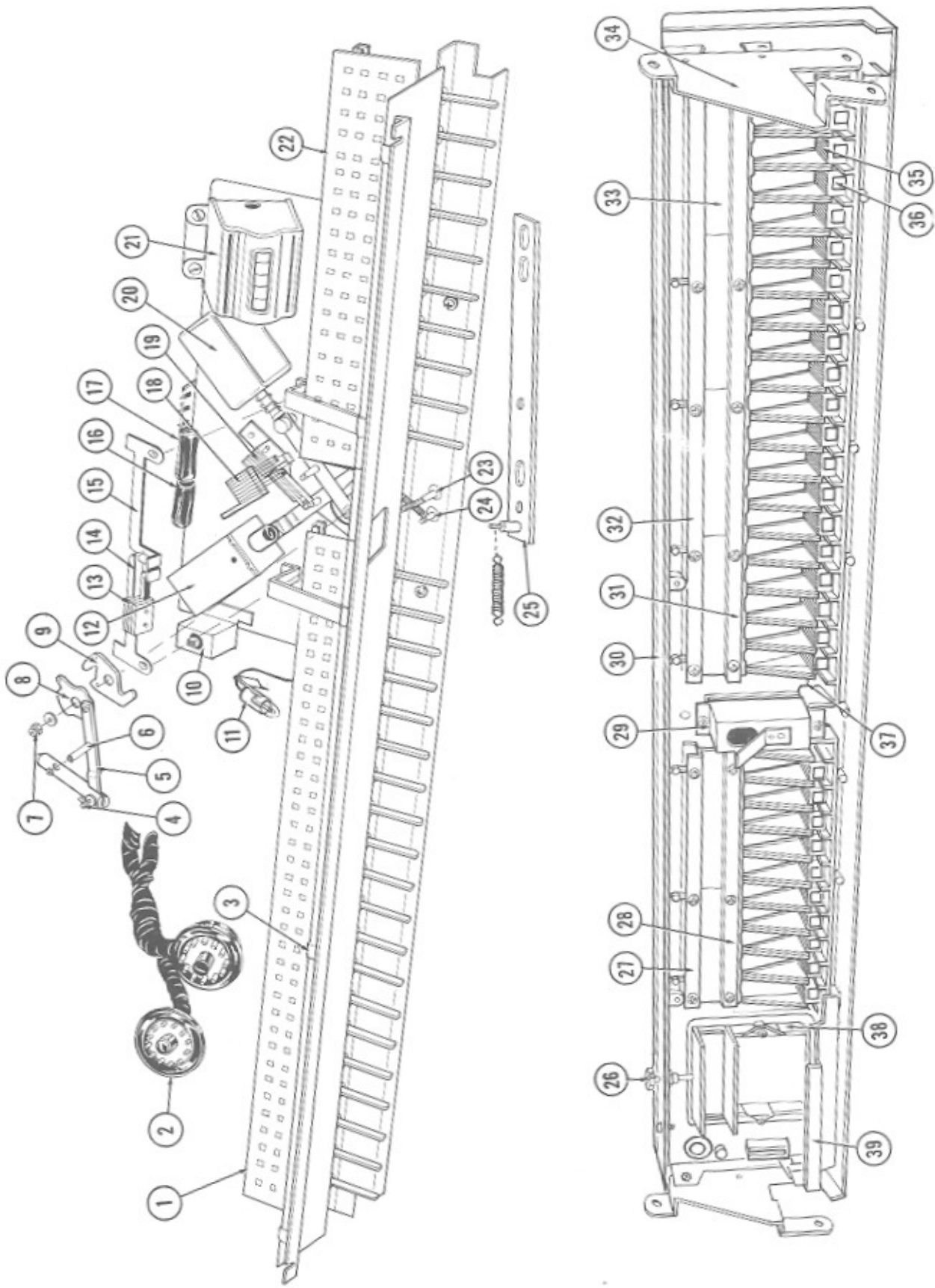



FIG. 88. COIN REGISTER MECHANISM (PLAYRAK)

1. Indexing Strip & Silk Screen Assy., 10¢	123659	16. Spring, Solenoid Return	66072
Indexing Strip & Silk Screen Assy., 25¢	123658	Eyelet (2)	66070
Indexing Strip & Silk Screen Assy., 50¢	123657	17. Stop Bracket, Pawl	66069
2. Stop Lever & Spring Assy. (3)	66132	18. Link	66065
3. Shaft, Lockout Lever	123634	Retaining Ring	73724-15
4. Spring, Lockout Lever	62145	19. Pivot Arm & Pawl Assy.	123637
5. Hub & Lever Assy., Lockout (3)	123648	Washer, Phospher Bronze	63692
6. Lever Hub & Stud Assy. (3)	123643	Washer	53541
Spacer	123647	Retaining Ring	73724-25
Retaining Ring	73724-18	20. Pivot Pin, Pawl	123635
Spring (3)	58781	21. Spring, Pawl	62145
7. Spring, Accumulator Wheel (3)	66074	22. Adjustment Cam	42868
8. Coin Magnet & Bracket Assy.	123641	23. Cancel Wheel & Mounting Plate Assy.	123628
9. Strain Relief	71878-6	Retaining Ring	73724-25
10. Accumulator Wheel & Hub Assy. (3)	123650	24. Switch Assy.	124440
11. Capacitor, 500 Mfd., 50V.	74909	25. Screw, 6-32 x 3/8", Bind. Hd., Nylon	74977-14
12. Resistor, 25 ohm, 5W.	71887-2	26. Spring, Cancel	66071
13. Plug, 11	38493	27. Solenoid, Cancel	65069
14. Socket, 5 Pin, Miniature	123618	28. Fuse Post	121809
15. Back Plate	123660	29. Fuse, 8/10 Ampere	71591-10



 FIG. 89. SELECTOR SWITCH ASSEMBLY

	2800	2810		2800	2810
1. Switch & Wire Assembly, Letter	124131	124151	21. Counter	45345	45345
2. Plug, 11 (3)	38493	38493	22. Switch & Wire Assy., Number	124132	124152
Plug, 12	114324		23. Spring, Actuator	122383	122383
Plug, 8		16614	24. Spring, Latch	57110	57110
3. Mounting Plate & Light Diffuser Assembly	122669	122670	25. Link & Pin Assy., (2)	124065	124065
Light Diffuser	122667	122667	Spacer (4)	122293	122293
Rivet	73623-41	73623-41	Screw, 8-32 x 3/4", Hex (4)	71493-40	71493-40
Washer	22810	22810	Roller (2)	124058	124058
4. Pin, Pre-Set Solenoid Link	65947	65947	Retaining Ring (2)	73724-12	73724-12
Cotter Pin	23355	23355	Spring	124039	124039
5. Link, Actuator	122285	122285	26. Lock Screw, Window Casting	123987	123987
Link, Latch	122290	122290	27. Extrusion, Clamp, 7-5/8"	121959	121959
6. Screw, 6-32 x 1", R. Hd. (2)	73503-74	73503-74	28. Extrusion & Pad Assy.	122729	122729
Bushing (2)	124338	124338	29. Light Shield & Clip Assy. Select Blank & Silk Screen Assy.	122049	122049
Nut, 6-32	891	891		121931	121931
7. Stop Nut, 8-32	73871-18	73871-18	30. Selector Casting & Nut Assy.	124125	124150
8. Cam & Hub Assy.	124062	124062	31. Extrusion & Pad Assy.	122730	122729
Pivot Pin (2)	122288	122288	32. Extrusion, Clamp	121957	121959
Retaining Ring (2)	73724-12	73724-12	33. Letters, A-E	123766	123766
9. Cam & Hub Assy.	124063	124063	Letters, F-K	123767	123767
Link, Latch	122290	122290	Letters, L-Q	123768	
Pin, Plunger (2)	121240	121240	Letters, R-V	123769	
10. Switch, Free Play	116723	116723	Numbers, 1-5	123770	123770
11. Light Socket & Wire Assy.	121352	121352	Numbers, 6-0	123771	123771
Lamp, No. 44	24689	24689	34. Mounting Bracket, L.H.	123556	123556
12. Solenoid, Latch	121095	121095	Mounting Bracket, R.H.	123557	123557
13. Switch, Anti-Cheat	124056	124056	35. Selector Button	121901	121901
14. Lever & Pin Assy., L.H.	124122	124122	36. Speed Clip	121954	121954
15. Lever & Pin Assy., R.H.	124123	124123	37. Gasket	122850	122849
16. Resistor, 150 ohm, 5W.	71883-2	71883-2	38. Window Casting & Latch Plate Assy.	122060	122060
17. Resistor, 125 ohm, 5W.	72935-2	72935-2	Window Casting, T.T.T.	122536	122536
18. Switch Assy., Control	124141	124141	39. Mounting Bracket	124126	124126
19. Switch Assy., Latch	60518	60518			
20. Solenoid, Pre-Set	60717	60717			
Eyelet (2)	66070	66070			
Spring	66072	66072			

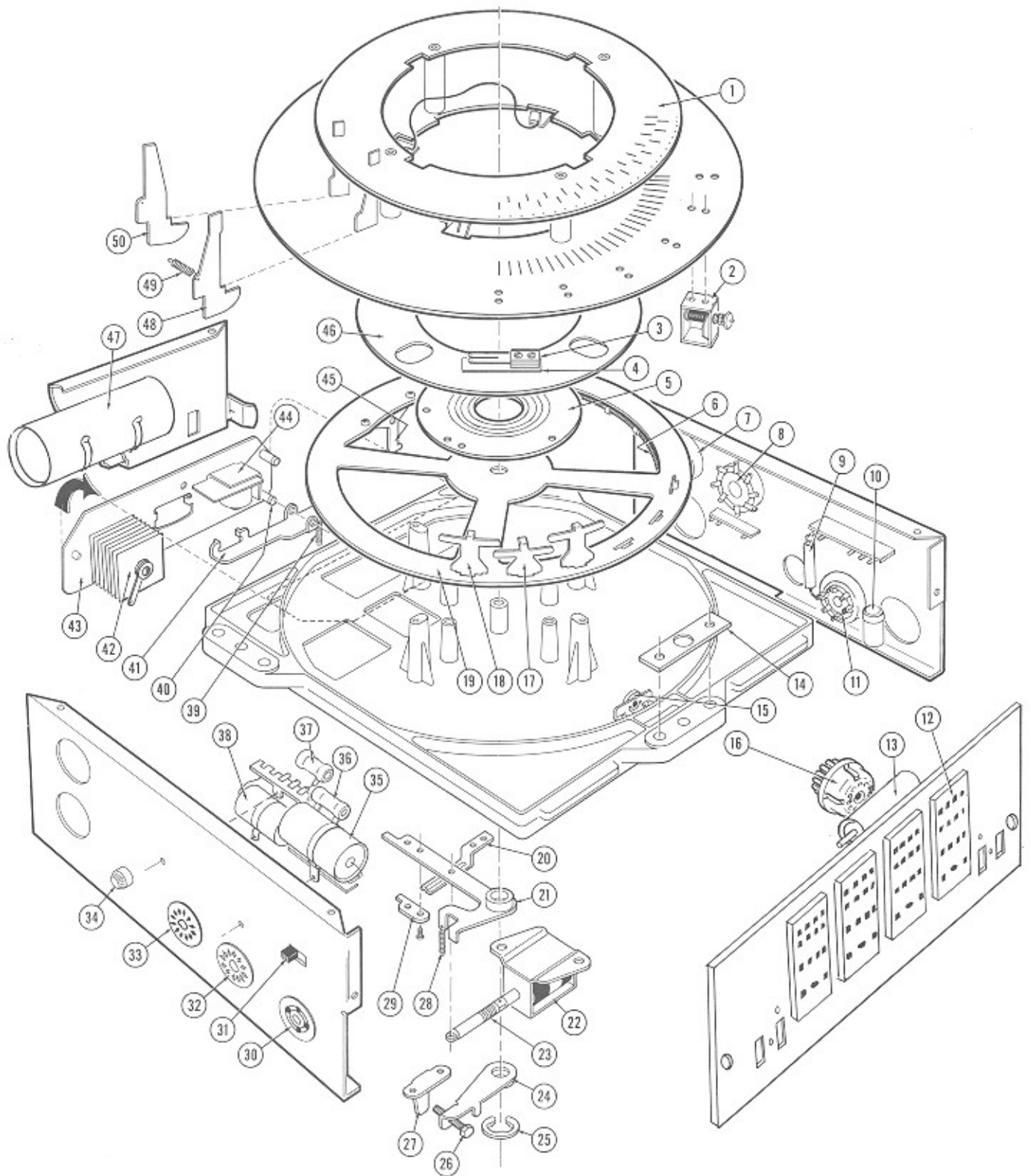



 FIG. 90. ELECTRIC SELECTOR - 2810

1. Plate & Spacer Assy.	122372	25. Retaining Ring	73724-50
2. Solenoid, Selector (20)	64602	26. Screw, 8-32 x 7/8", Hex	73793-87
3. Override Switch (4)	115918	27. Stop, Centering Yoke	115824
4. Insulator (4)	64595	28. Spring (2)	115821
5. Contact Plate Assy.	66186	29. Guide Plate, Centering Yoke	115822
6. Spring, Rotating Plate	115973	30. Socket, 4 Pin	30495
7. Socket, 11 Pin (5)	38492	31. Slide Switch	123715
8. Socket, 8 Pin	10964	32. Socket, 11 Pin	38492
9. Resistor, 310 ohm, 5W.	70684-2	33. Socket, 12 Pin	114325
10. Capacitor, .1 Mfd., 600V.	74321-16	34. Fuse Post	121809
11. Socket, 6 Pin	32881	Fuse .8 Ampere, Slow Blo	71591-10
12. Socket, Relay (4)	122131	35. Capacitor, 50 Mfd., 50V.	73845-32
Retainer, Socket (4)	122132	36. Resistor, 50 ohms, 5W.	72986-2
13. Capacitor, 20 Mfd., 50V.	73840-42	37. Resistor, 50 ohms, 5W.	72986-2
14. Guide, Selector Mount	61850	38. Capacitor, 150 Mfd., 50V.	73889-620
15. Roller Assy.	64630	39. Spring, Stop Arm	64773
16. Plug & Wire Assy.	121319	40. Stop Pivot	64649
Socket, 11 Pin (4), Stepper	38492	41. Stop Arm Assy.	115862
17. Rocker, Short (10)	117692	42. Rectifier, Selenium	118663
18. Rocker, Long (10)	115788	43. Mounting Plate & Spring Stud Assy.	117986
19. Rotating Plate	115787	44. Magnet & Frame Assy.	117987
20. Guide, Centering Yoke	115823	45. Stop Bracket, Selector	115789
21. Centering Yoke, Hub & Pin Assy.	115802	46. Wobble Plate	115796
22. Solenoid, Driver (2)	115975	47. Capacitor, 124 Mfd., 50V. A.C.	74808
23. Spring & Plug Assy.	64783	48. Latch Pin, Inner (50)	115806
24. Adjustment Bracket, Hub & Stop Nut Assy.	115798	49. Spring, Latch Pin (100)	57110
		50. Latch Pin, Outer (50)	115807

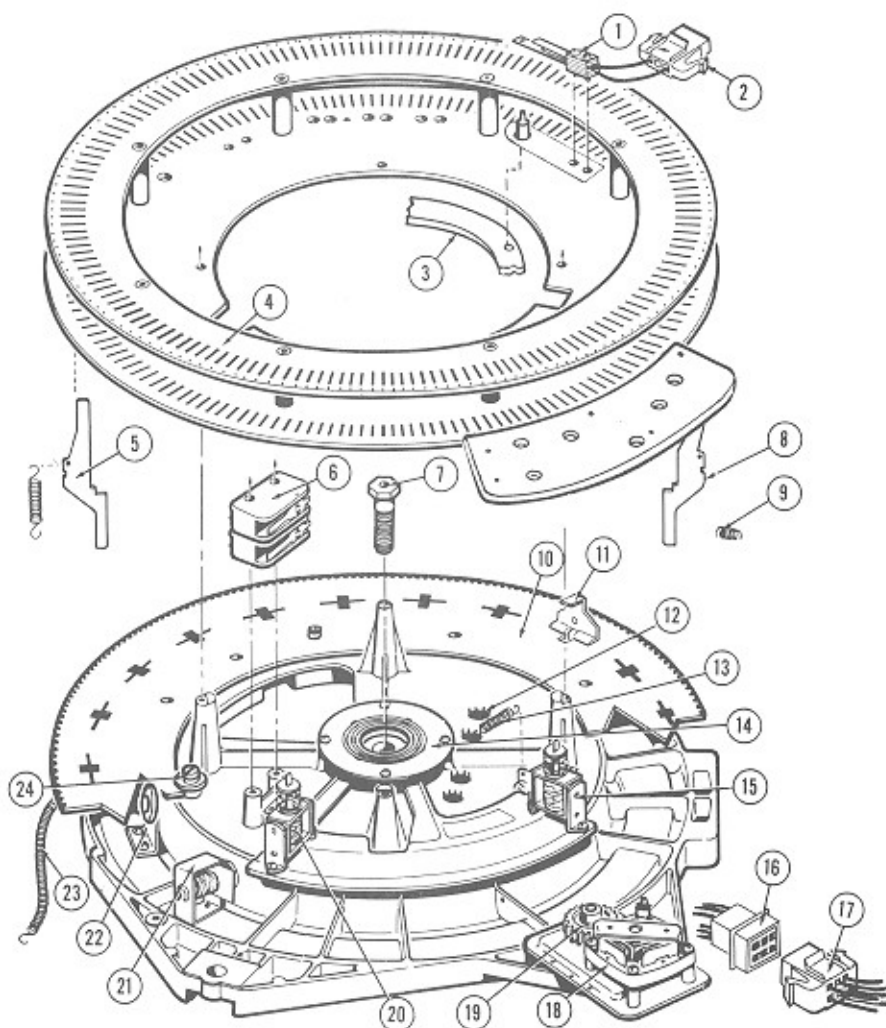


FIG. 91. ELECTRIC SELECTOR - 2800

1. Switch Assy. (4)	65952	Plunger	68608
Insulator	69839	Washer	64766
2. Socket, 3 Circuit	117824	Spring	64780
Cap, 3 Circuit	117823	Internal Hair Pin	74402-1
3. Wobble Ring	67927	16. Cap, 6 Circuit	113527
Spacer (4)	68650	17. Socket, 6 Circuit	113528
4. Selector Plates & Spacer Assy.	123832	Contact (10)	111527
5. Latch Pin, Inner (100)	110941	18. Motor & Gear Assy.	111913
6. Switch (2)	110558	19. Gear & Hub Assy.	68717
7. Stud	69246	Roll Pin	73782-32
Lock Washer, 1/2	73607-13	20. Solenoid, Selector Stop (9)	68617
Nut, 1/2-20	73602-77	21. Solenoid, Selector (20)	68594
8. Latch Pin, Outer (100)	110942	Plunger	68496
9. Spring, Latch Pin (200)	110480	Washer	64766
10. Rotating Plate	67920	Spring	64780
11. Rocker, Rotating Plate (20)	67926	Internal Hair Pin	74402-1
12. Plug, 11 Prong	48501	22. Bracket & Roller Assy. (3)	68561
Socket, 11 Prong (3)	38492	23. Spring, Rotating Plate	68755
13. Spring, Number Quadrant	62773	Stop Pin, Rotating Plate (10)	115411
14. Contact Plate Assy.	66186	24. Roller, Guide (3)	68656
15. Solenoid, Selector Stop (1)	68804	Stud, Eccentric, Guide Roller	69659
		Stud, Guide Roller (2)	68657
		Retaining Ring (3)	73724-31

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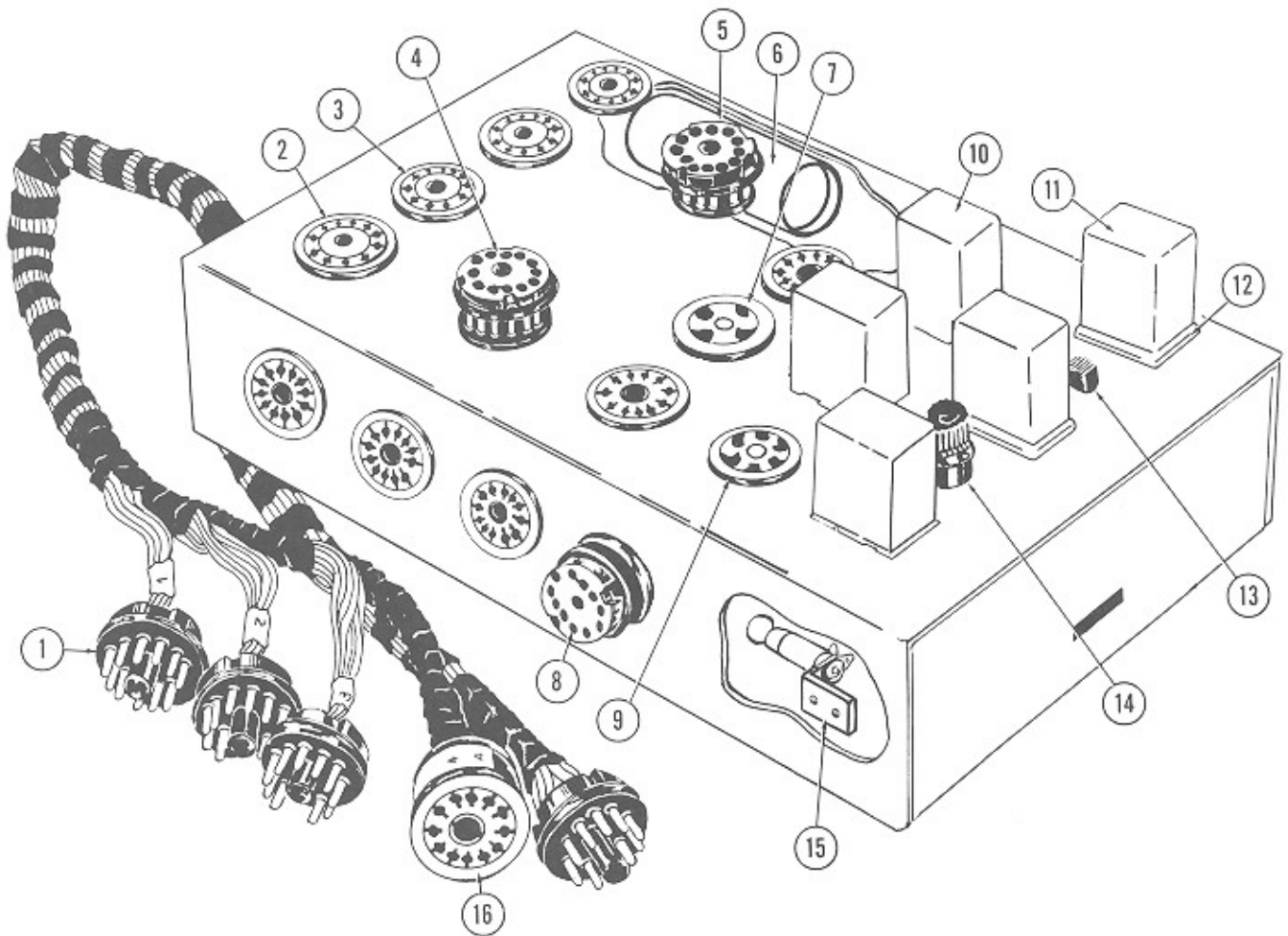


FIG. 92. JUNCTION BOX - 2800

1. Plug, 11	121584	8. Plug & Wire Assy. (Stepper Jumper)	121319
2. Socket, 12	114325	9. Socket, 6	32881
3. Socket, 11	38492	10. Relay, White Cover, 28V., D.C.	122133
4. Plug & Wire Assy., Red (T.T. Jumper)	123990	11. Relay, Red Cover, 24V., A.C.	122366
5. Plug & Wire Assy., Blue (Spec. Prog.)	124279	12. Socket, Relay, Without Color Code	122131
6. Capacitor, 124 Mfd., 50V., A.C.	74808	13. Switch	123715
Capacitor, 50 Mfd., 50V.	73845-32	14. Fuse Post	121809
Capacitor, .1 Mfd., 600V.	74321-16	Fusc, 8/10 Ampere, Slow Blo	71591-10
Capacitor, .047, 400V.	74569-24	15. Lamp Socket	122358
Capacitor, 100 Mfd., 50V.	73846-32	Lamp, No. 303	122359
Resistor, 310 ohm, 5W.	70684-2	16. Socket, 11	58898
7. Socket, 4	30495	Cap	16610

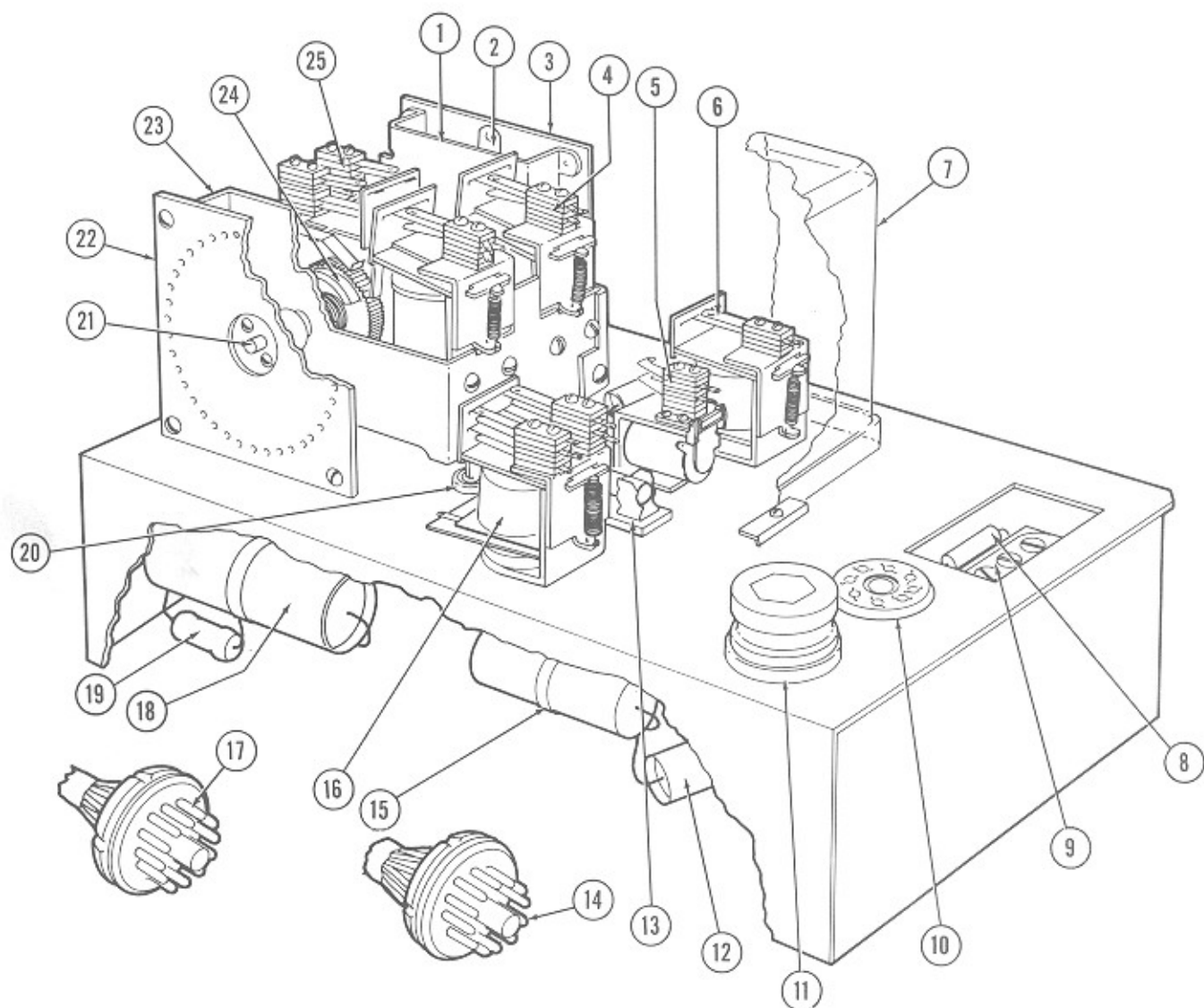


FIG. 93. MODEL 261 STEPPER

1. Frame, Number Contact Plate	114346-J	13. Fuse Clip	46602
2. Contact Wiper Arm, Letter or Number	114346-G	Fuse .5 Ampere, Slow Blo	71591-6
3. Contact Plate, Number	114346-E	14. Plug, 12 Prong (3)	114324
4. Step Magnet, Letter or Number Pawl Armature Contact Assy.	114346-B 114346-BA 114346-BB 114346-BC	15. Capacitor, .5 Mfd., 400V.	73099-240
5. Relay, Pulse Contacts	117048 117048-A	16. Relay, Transfer	118551
6. Relay, Timing	118553	17. Plug, 11 Prong	121584
7. Cover, Plastic Box	65801	18. Capacitor, 500 Mfd., 50V.	71816
8. Capacitor, .01 Mfd., 400V.	71217-14	19. Resistor, 50 ohm, 5W.	72986-2
9. Terminal Strip	68920	20. Grommet (3) Cup Washer (6)	60574 60575
10. Socket, 8 Prong	10964	21. Stepper, Dual	114346
11. Socket, Fustat Fustat, 3 Ampere	61857 61858	22. Contact Plate, Letter	114346-F
12. Capacitor, 4 Mfd., 250V.	73835-55	23. Frame, Letter Contact Plate	114346-K
		24. Delrin Ratchet Wheel, Letter Delrin Ratchet Wheel, Number Teflon Shim Washer	114346-D 114346-C 61004-A
		25. Release Relay Armature & Pawl Spring	114346-A 114346-AA

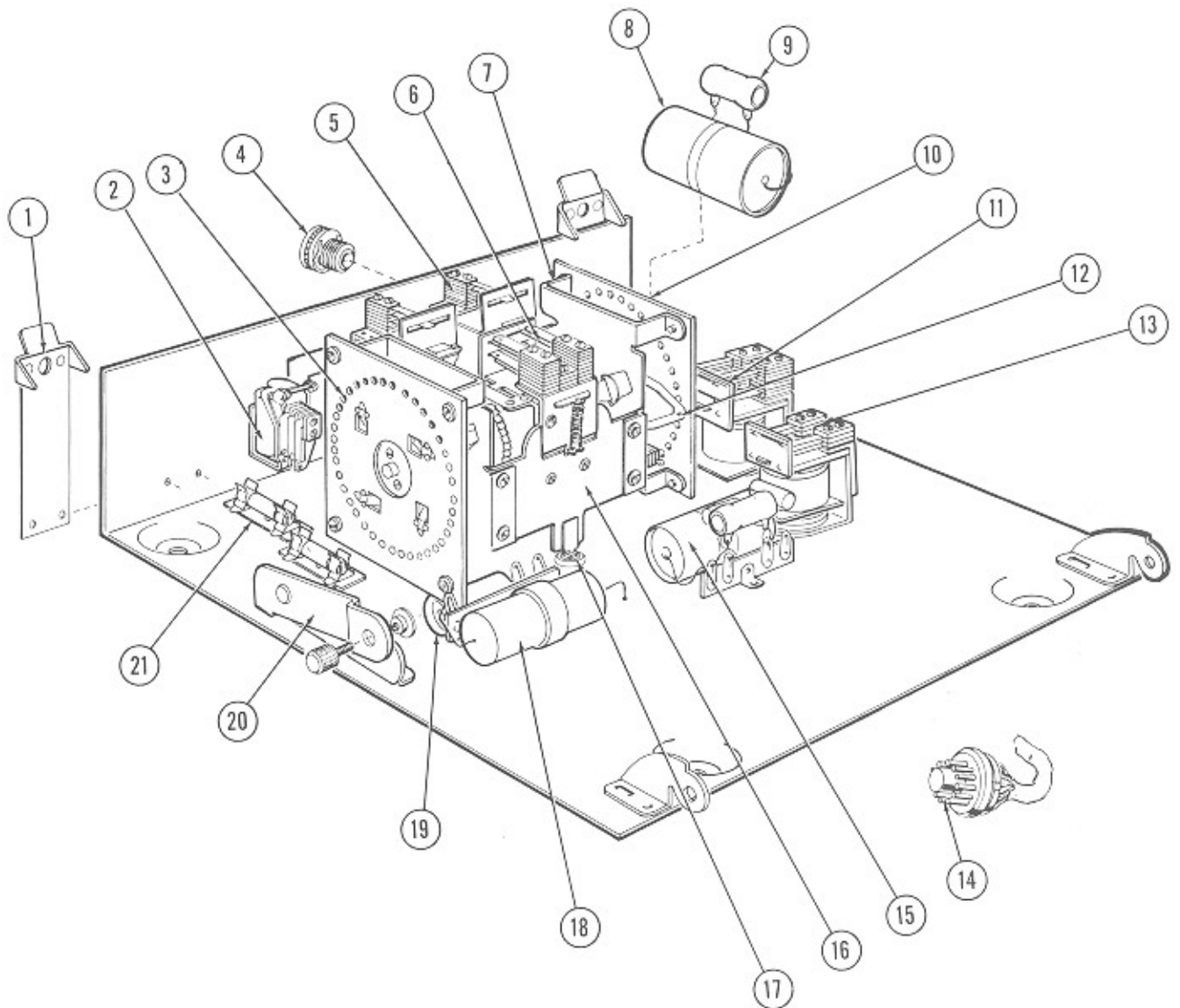


FIG. 94. MODEL 259-A STEPPER

1. Spring & Clip Assy. (2)	115832	9. Resistor, 25 ohms, 5W. (3)	71887-2
2. Relay, Pulse	117048	10. Contact Plate Assy., 2 Circuit	114528-E
Contacts	117048-A	11. Relay, Transfer	118450
3. Contact Plate Assy., 4 Circuit	114528-F	12. Contact Arm Assy., 2 Circuit	114528-G
Contact Arm Assy., 4 Circuit	114528-H	Nylon Ratchet Wheel, 2 Circuit	
Nylon Ratchet Wheel, 4 Circuit		Contact Arm	114346-D
Contact Arm	114346-C	13. Relay, Timing	118447
Frame, 4 Circuit Contact Plate	114346-J	14. Plug, 11 Prong (4)	38493
4. Fustat, 3 Ampere	61858	15. Capacitor, 100 Mfd., 50V.	73862
Socket, Fustat	61857	16. Stepper, Dual	114528
5. Step Magnet (2)	114346-B	17. Grommet (3)	60574
Pawl	114346-BA	Cup Washer (6)	60575
Armature	114346-BB	18. Capacitor, .5 Mfd., 400V.	73099-240
Contact Assy.	114346-BC	19. Capacitor, 4 Mfd., 250V.	73835-55
6. Relay, Release Latch	114346-A	20. Fall Support Assy.	115825
Armature & Pawl Spring	114346-AA	Spacer	115831
7. Frame, 2 Circuit Contact Plate	114346-K	Thumb Screw	59280
8. Capacitor, 250 Mfd., 50V.	71499	21. Fuse Clip (2)	46602

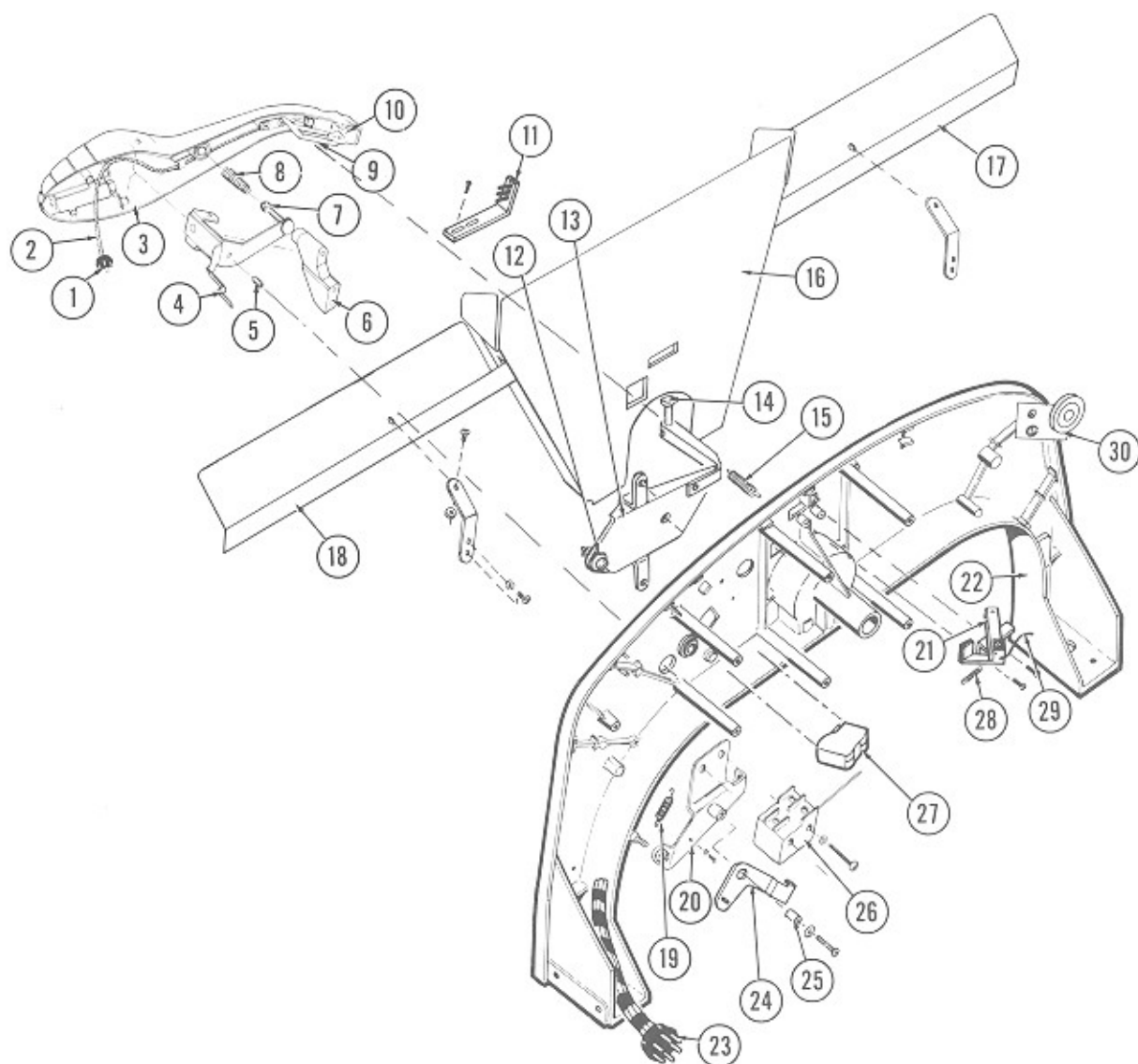


FIG. 95. TOP SUPPORT CASTING

1. Plug, 4	69089	16. Decorative Background & Clip Assy.	123945
2. Pickup Cable & Plug Assy., (Cartridge Plug)	122564	17. Light Reflector, L.H.	123786
3. Tone Arm Sub Assy.	121941	18. Light Reflector, R.H.	123785
4. Gimbal & Stop Nut Assy.	120451	19. Spring, Trip Switch Bracket	59615
5. Pivot Screw	59394	20. Bracket & Stop Nut Assy.	121249
6. Mounting Casting & Pin Assy.	120452	21. Arm, Tone Arm Brush Felt	121950 121965
7. Nut, 10-32, Nylock	73865-8	22. Support Casting & Bushing Assy.	121911
8. Spring, Tone Arm Pressure	114484	23. Plug, 6 Pin	16607
9. Latch Bracket	64423	24. Adjusting Bracket, Trip Switch	121690
10. Cartridge, Stereo Needle, Double Sapphire Tip Screw, 4-40 x 5/16", R.H. (2)	121944 122668 73533-3	25. Bushing Screw, 8-32 x 1-1/4", R.H.	59411 73503-95
11. Brush Holder Brush	121949 119080	26. Trip Switch	121229
12. Screw, 8-32 x 1", R.H., Nylon	74288-27	27. Switch, Safety Insulator	110557 59900
13. Bracket & Stop Nut Assy.	120435	28. Spring Tone Arm Brush	59710
14. Stop Pin, Tone Arm	115660	29. Cable, Tone Arm Brush, 38" Sleeve, Tone Arm Brush Cable	60912 59881
15. Spring	65096	30. Pulley & Bracket Assy.	123342

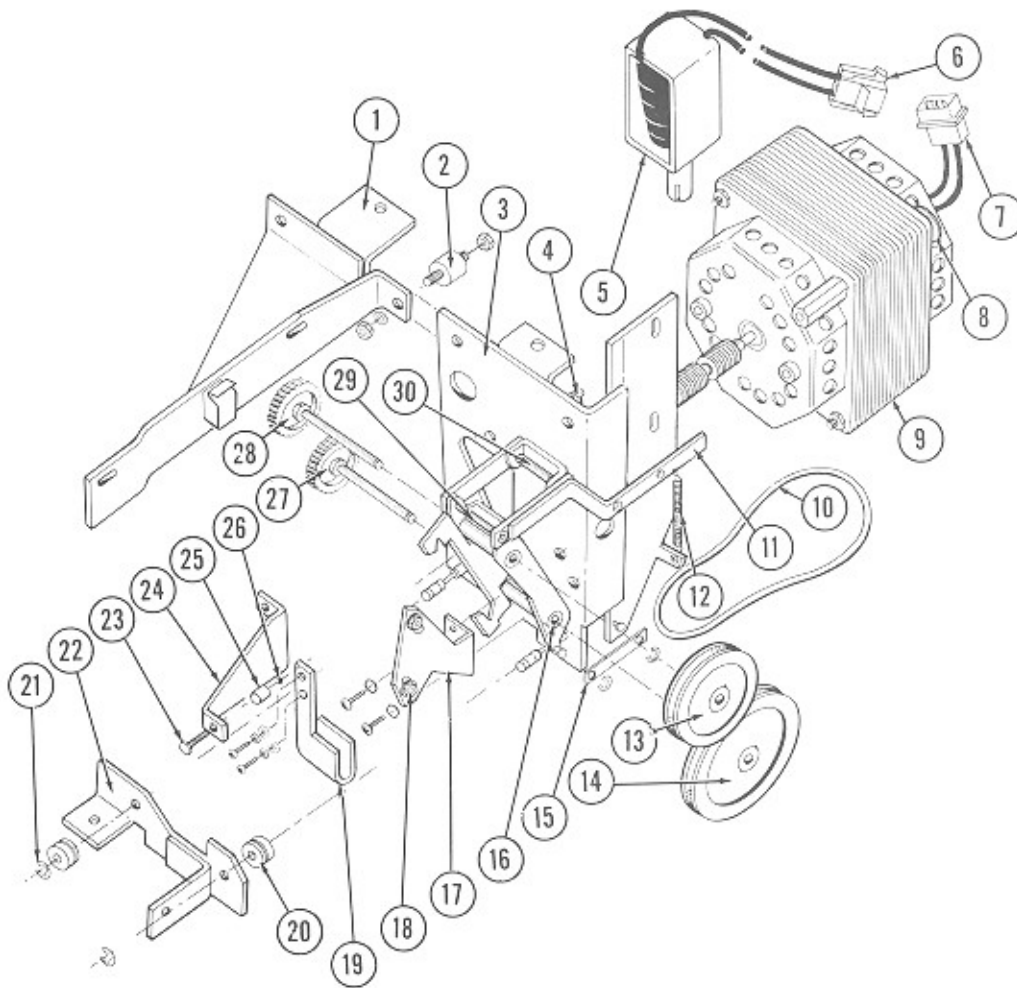


FIG. 96. TURNTABLE MOTOR & MOUNTING BRACKET ASSEMBLY

1. Mounting Bracket Assembly	117794	14. Pulley, 45, Red Dot	119750
2. Rubber Mount (2)	60882	Green Dot	119832
3. Mounting Plate & Rivet Assy.	122735	Yellow Dot	122345
4. Oil Tube	119051	Blue Dot	122347
5. Solenoid	121095	Shim Washer	119789
Plunger, Solenoid	121095-A	15. Link	119770
Pin, Solenoid Plunger	121240	Retaining Ring (2)	73724-18
Cotter Pin	23355	16. Mounting Channel & Bushing Assy.	122732
Felt Washer	122862	17. Mounting Bracket	122717
6. Socket	117824	18. Stud (2)	122716
Contact	113789	19. Support Bracket	119769
7. Cap	117823	20. Grommet (2)	49884
8. Eccentric Washer (For G.I. Motor)	122050	21. Retaining Ring (2)	73724-25
(For Alliance Motor)	122827	22. Mounting Bracket & Angle Assy.	119758
9. Motor & Worm Assy.	119790 or 119791	23. Screw, 8-32 x 3/4", Hex	73660-86
10. "O" Ring, 33-1/3, Turntable		24. Support Bracket & Stop Nut Assy.	121059
Drive Belt	122500	25. Tip	119779
"O" Ring, 45, Turntable Drive Belt	122501	26. Steel Ball	46107
11. Selector Lever & Yoke Assy.	122725	27. Gear & Shaft Assy., 45	119745
12. Spring, Selector Lever	119842	28. Gear & Shaft Assy., 33-1/3	119744
13. Pulley, 33-1/3, Red Dot	119751	29. Pivot Pin	122723
Green Dot	119833	Retaining Ring (2)	73724-12
Yellow Dot	122344	30. Hinge Pin	122724
Blue Dot	122346	Retaining Ring (2)	73724-18

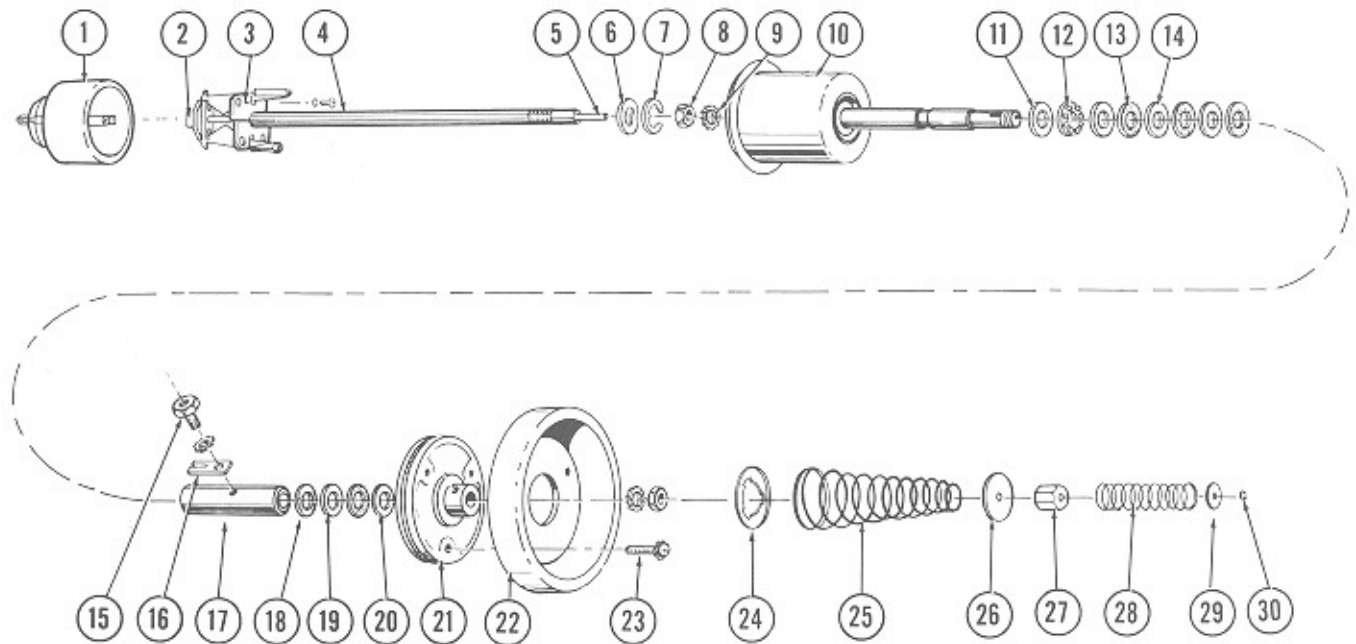


FIG. 97. TURNTABLE ASSEMBLY

1. Pilot	122113	13. Shim, Fiber	63732
2. Cam, Clamp Lever	119409	14. Shim, Steel	63731
3. Plate & Arms Assy.	119439	15. Screw, Turntable Sleeve	64513
Lever, Record Clamp (2)	119412	Lock Washer	73604-9
Spring (2)	119424	16. Clamping Plate	64512
Washer	50494	17. Sleeve & Bushing Assy.	64520
Retaining Ring	73724-12	18. Shim, Fiber	63732
Screw, 6-32 x 1/4", R. Hd. (4)	73533-22	19. Shim, Steel	63731
4. Tube	119420	20. Washer	56530
Retaining Ring (2)	73724-25	21. Pulley, Turntable	64190
Spring Washer	73632-18	22. Flywheel	59456
5. Shaft, Turntable Pilot Clamp Levers	119413	23. Screw, 8-32 x 1/2", R.H.	73533-38
6. Spring Washer	73632-18	24. Spring Cup	122115
7. Retaining Rings (2)	73724-25	25. Spring, Turntable Pilot	122114
8. Nut, 7/16-20	59470	26. Adjusting Plate	121338
9. Lock Washer, 7/16	73607-12	27. Adjusting Nut	121337
10. Turntable & Shaft Assy.	122779	28. Spring, Clamp Arm	119423
11. Thrust Washer (2)	59864	29. Cup Washer	119414
12. Ball Race	59867	30. Retaining Ring	73724-12

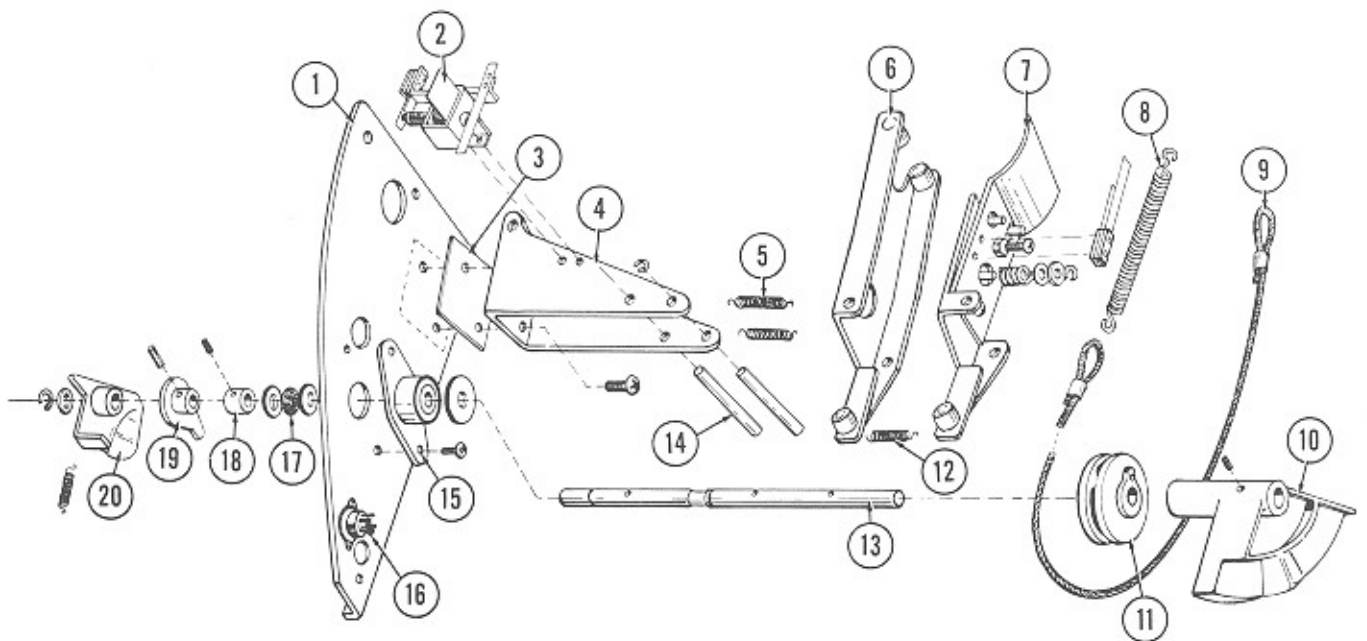


FIG. 98. MOUNTING PLATE AND SHAFT ASSEMBLY

1. Mounting Plate & Socket Assembly	114258	9. Cable & Sleeve Assy.	59871-A
2. Solenoid Assy., Interlock	119826	Sleeve	59891
Switch Assy.	119784	10. Cam, Record Clamp	119429
Support Bracket & Spring Assy.	119793	Roll Pin	73782-51
Cap, 3 Circuit	117823	11. Pulley	59415
Lamp	111816	Roll Pin	73782-49
Contact Connectors, Lamp	121763	12. Spring	59710
3. Shim	119445	13. Shaft	59393
4. Pivot Bracket	119433	14. Shaft (2)	59400
5. Spring, Turntable Release Arm (2)	119426	Retaining Ring	73728-25
6. Turntable Release Arm Assy.	119441	15. Plate & Bearing Assy.	59911
7. Cam Lever Assy., Turntable Pilot	119442	16. Socket, 4	69090
Spring, Cam Lever	119498	17. Ball Race	59679
Cup Washer	119432	Washer (2)	59440
Retaining Ring	73724-18	18. Collar	119584
Screw, 8-32 x 5/8", R. Hd., Nylon	74288-25	19. Arm & Hub Assy., Tone Arm Release	59722
8. Spring, Turntable Cam	119425	Retaining Ring	73728-37
		Spring	59606

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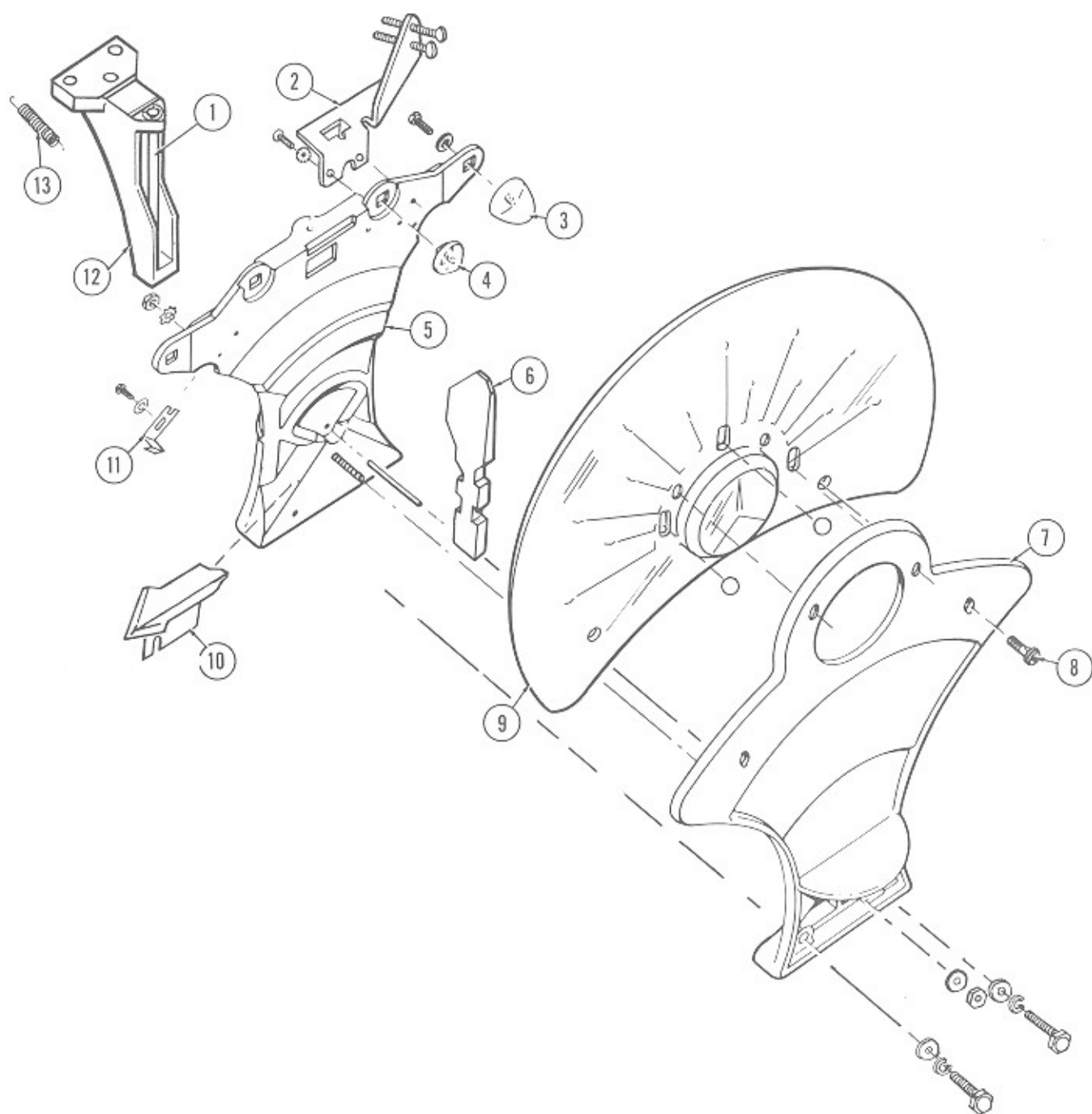


FIG. 99. RECORD GUIDE ASSEMBLY

1. Shaft, Record Guide Pivot	59869	8. Screw, 6-32 x 7/16", Truss Hd.,	
Retaining Ring (2)	73724-18	Type 23	74335-22
2. Bracket & Stop Nut Assembly	120445	9. Record Guide Plate	123943
Screw, 6-32 x 1", R.H.	73656-74	10. Record Guide & Bracket Assy., L.H.	68376
Screw, 6-32 x 1-3/8", R.H.	73800	Record Guide & Bracket Assy., R.H.	68375
3. Bumper, Record Guide	117254	11. Stop Bracket (2)	122840
4. Bumper, Record Guide	59396	Screw, 4-40 x 5/16", R.H.	73533-3
5. Casting, Rear	122436	12. Pivot Casting, Record Guide	59892
6. Track	59425	Spring Pin, Pivot Casting	59908
Groove Pin	59546	13. Spring, Record Guide Retracting	59606
7. Casting, Front	123942		

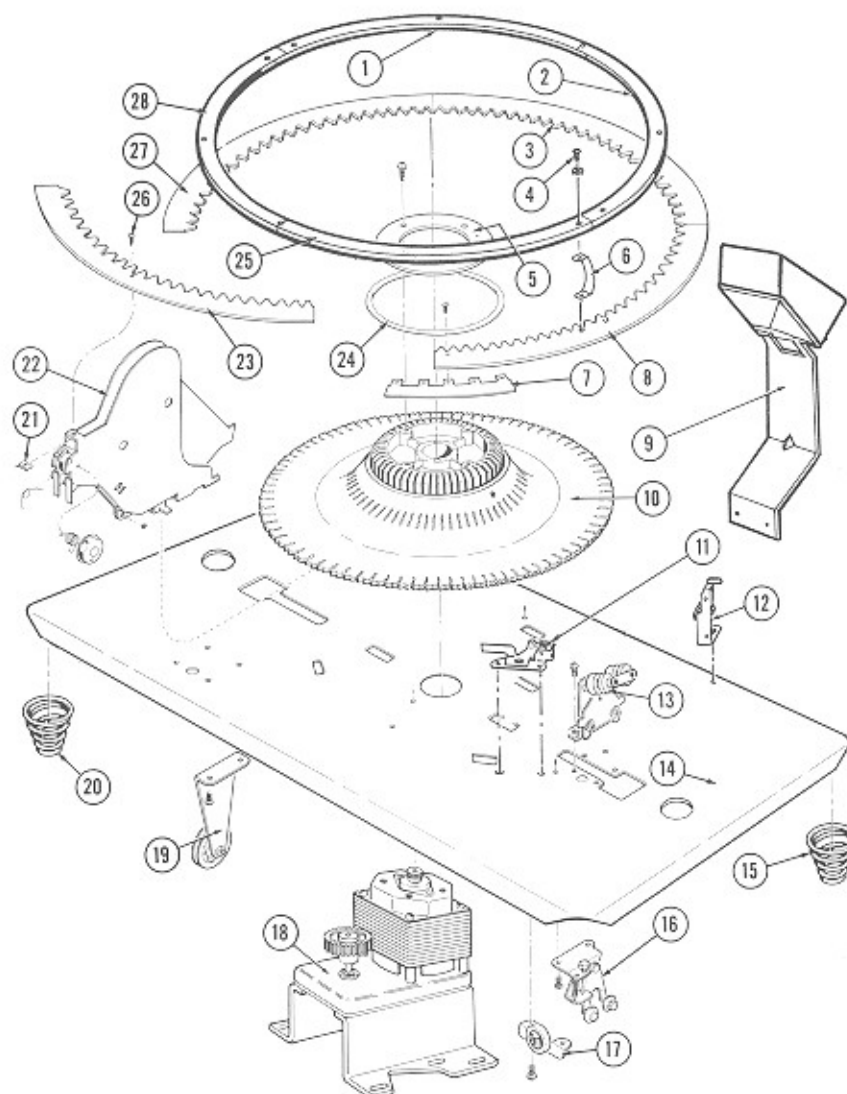


FIG. 100. RECORD CARRIER AND CHASSIS MOUNTING PLATE - 2800

1. Segment, Record Indicator Ring, H6-N5	118183	14. Chassis Mounting Plate, Sub Assy.	121884
2. Segment, Record Indicator Ring, C6-H5	118184	15. Conical Spring, Chassis Mount, Red Dot	53774
3. Segment, Carrier Ring & Silk Screen Assy., L2-R1	114066	16. Bracket & Roller Assy., L.H. Bracket & Roller Assy., R.H.	65885
4. Screw, 4-40 x 3/16", R.H.	73533-1	17. Bracket & Roller Assy., (3)	59844
5. Clamp, Record Holder	59734	18. Motor & Pinion Assy., Gear & Hub Assy., Pinion Mounting Bracket (2)	121998
6. Spacer (10)	118936	19. Mounting Bracket & Idler Pulley	61574
7. Connecting Bracket	65548	20. Conical Spring, Chassis Mount, Yellow Dot	61059
8. Segment, Carrier Ring & Silk Screen Assy., F2-L1	114064	21. Nut	73637-10
9. Mounting Bracket, Record Indicator Panel	121893	22. Record Holder Assy., Light Shield, Record Indicator Assy.	65908
10. Casting, Record Holder	115684	23. Segment, Carrier Ring & Silk Screen Assy., A2-F1	114067
11. Back Stop Pawl Assy. (2) Spring	65890	24. "O" Ring, Rubber Gasket	119824
12. Playmeter Reset Lever Assy., Spring	113210	25. Segment, Record Indicator Ring, T6-C5	118185
13. Bracket & Roller Assy., Lift Arm Guide (2) Roller Stud, Eccentric	116837	26. Screw, 4-40 x 3/8", R.H.	73503-25
	116833	27. Segment, Carrier Ring & Silk Screen Assy., R2-A1	114065
	116831	28. Segment, Record Indicator Ring, T5-N6	118182

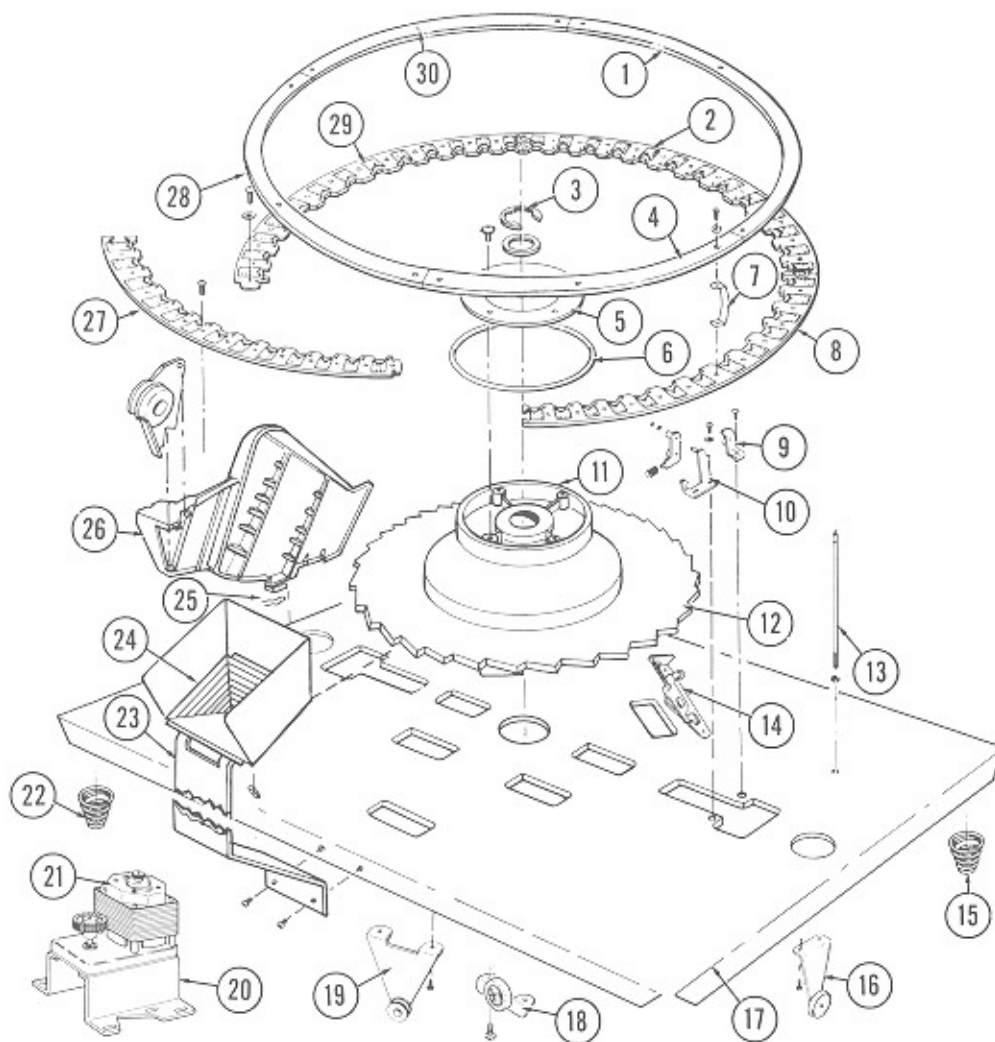


FIG. 101. RECORD CARRIER AND CHASSIS MOUNTING PLATE - 2810

1. Segment, Record Indicator Ring, B4-D8	118201	16. Mounting Bracket & Idler Pulley Assy.	61574
2. Segment, Carrier Ring & Silk Screen Assy., A1-C6	122074	17. Chassis Mounting Plate Sub Assy.	121884
3. Retaining Ring	73724-87	18. Bracket & Roller Assy. (3)	122088
4. Segment, Record Indicator Ring, D7-G1	118199	19. Idler Pulley & Bracket Assy.	59719
5. Clamp	59734	20. Mounting Bracket (2)	121982
6. "O" Ring	122083	21. Motor & Pinion Assy. Gear & Hub Assy.	122681 68717
7. Spacer (10) Splice Plate, Carrier Ring	122067 119574	Taper Pin #4/0	665
8. Segment, Carrier Ring & Silk Screen Assy., H7-K0	122077	22. Conical Spring, Chassis Mount, Front, Red Dot	53774
9. Bracket & Roller Assy. (2)	59704	23. Mounting Bracket, Record Indicator Panel	121893
10. Mounting Bracket & Roller Assy. (2) Retaining Ring (2) Spring (2)	60658 73724-15 60677	24. Record Indicator Panel Light Shield, Record Indicator Panel	121894 123558
11. Casting, Record Holder	122080	25. Spring, Retainer, Record Holder (50)	122082
12. Plate, Record Holder	122081	26. Record Holder Assy.	122071
13. Bracer Rod	60519	27. Segment, Carrier Ring & Silk Screen Assy., F1-H6	122075
14. Back Stop Pawl Assy. (2) Bumper	122084 54246	28. Segment, Record Indicator Ring, G4-J8	118202
15. Conical Spring, Chassis, Rear, Yellow Dot	61059	29. Segment, Carrier Ring & Silk Screen Assy., C7-E0	122076
		30. Segment, Record Indicator Ring, B1-J7	118200

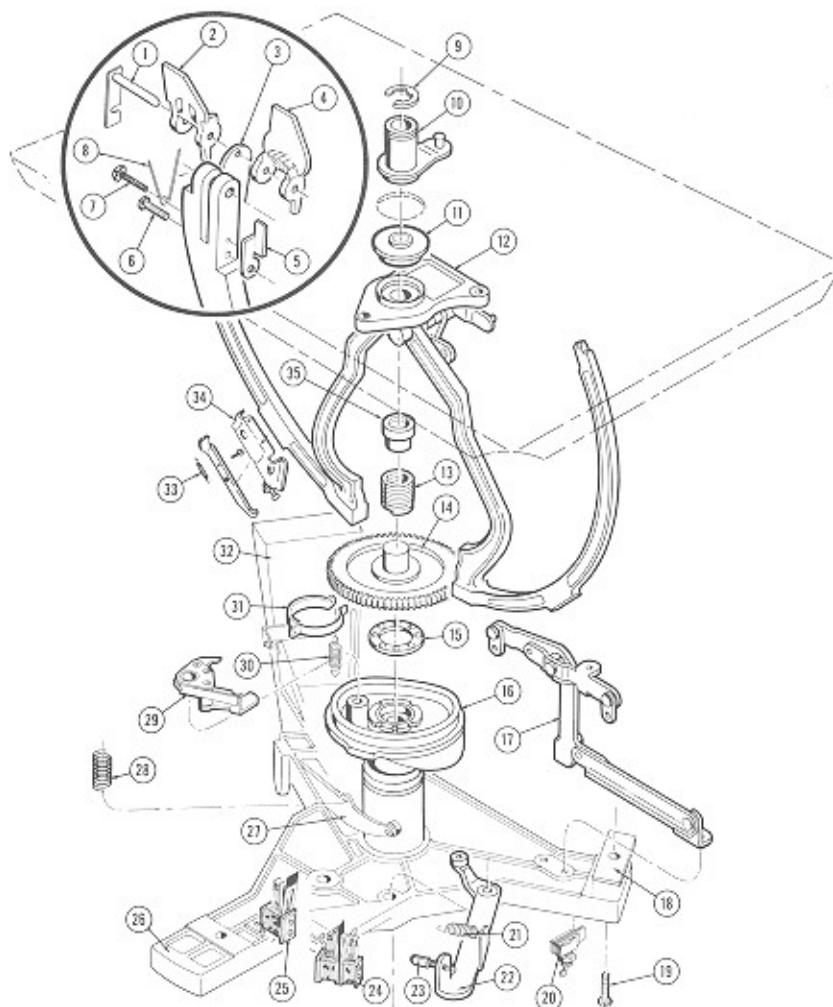


FIG. 102. RECORD CHANGER - 2800

1. Plate & Pin Assy.	117252	22. Actuator Arm Assy., Play Switch	62761
2. Guide Tip, L.H.	65731	Screw, 4-40 x 1-1/4", R.H.	73574-33
3. Guide Plate	68290	23. Actuator, Nylon Tip	58255
4. Guide Tip, R.H.	65730	24. Mute & Play Switch & Bracket Assy.	65170
5. Stop, Guide Tip	65526	Over-Center Spring	65170-1
6. Screw, 4-40 x 5/8", R.H.	73533-7	Mute & Play Switch & Bracket Assy.	123336
7. Screw, 3-48 x 1/2", R.H.	73533-106	Over-Center Spring	123336-A
8. Spring	65812	Washer	123329-B
9. Retaining Ring	73724-87	25. Transfer Switch & Bracket Assy.	121909
10. Arm & Rivet Assy.	115668	Over-Center Spring	59569-2
Roll Pin	73782-85	Transfer Switch & Bracket Assy.	123329
11. Ball Bearing	59654	Over-Center Spring	123329-A
12. Pivot Casting & Arm Assy.	113204	Washer	123329-B
Record Actuating Arm & Shaft		26. Chassis Frame & Shaft Assy.	116023
Assy., L.H.	65881	27. Cancel Lever, Hub & Roller Assy.	59513
Assy., R.H.	65883	Cancel Casting	59631
13. Spring, Drive Clutch	59584	Roll Pin	73782-66
Washer, Felt (2)	59655	Roll Pin	73782-70
Washer, Steel (2)	59647	Spring, Cancel	110934
14. Gear & Ratchet Wheel Assy.	116986	28. Spring, Cancel Lever Return	65809
15. Ball Race	59637	29. Pawl Assy.	59537
Washer (2)	59641	30. Spring, Strap & Spring Assy.	59612
Retaining Ring	73727-112	31. Strap & Spring Assy., Friction	
Oil Guard	66580	Drive Pawl	59626
16. Main Cam & Bushing Assy.	62792	32. Support Casting, R.H.	67928
17. Link & Lever Assy., Record Arm	59599	Support Casting, L.H.	68700
18. Tapping Plate (2)	68521	33. Spring, Play Meter Actuating Arm	59894
19. Screw, 1/4-20 x 1", Hex Hd.	73793-150	34. Bracket & Nut Assy.	113205
20. Switch, Record Loading, S.P.S.T.	119785	35. Hub, Selector Drive Clutch	118254
21. Spring, Mute & Play Switch Actuator	62773	Roll Pin	73782-88

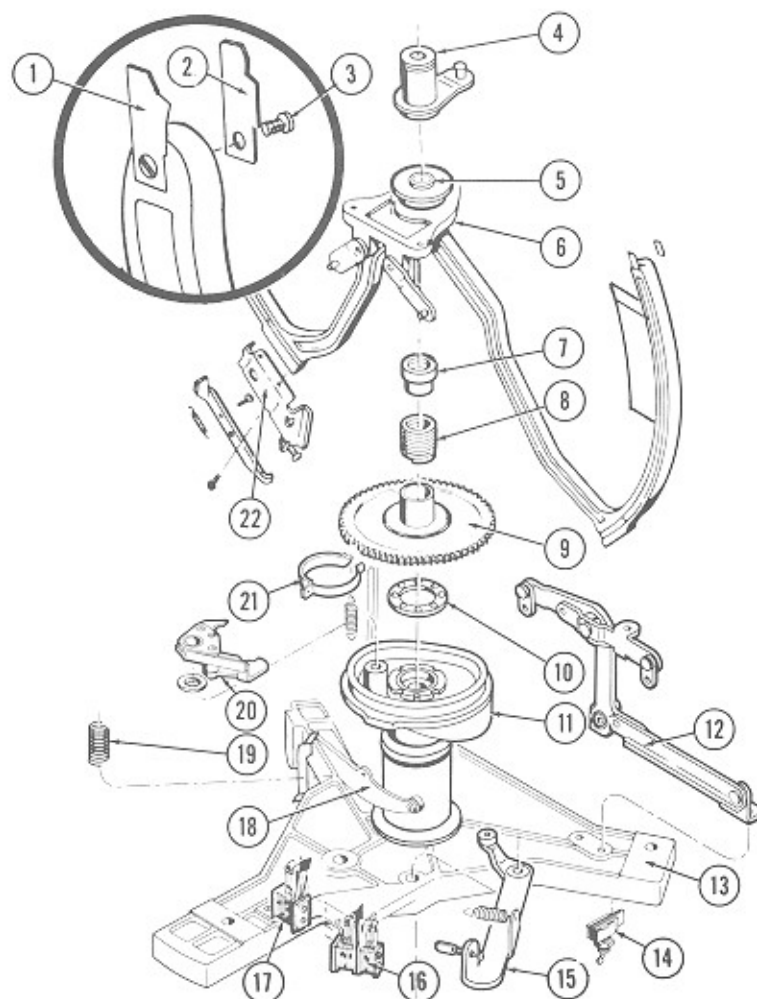


FIG. 103. RECORD CHANGER - 2810

1. Guide Tip, Left Hand (2)	60711	Actuator Arm Assy., Transfer	113299
2. Guide Tip, Right Hand (2)	61484	Switch	59688
3. Screw, 2-56 x 3/16", F. Hd.	73586-2	Lever Assy., Record Clamp	73728-37
Lock Washer, #2, Countersunk	73606-1	Retaining Ring	65170
4. Arm & Rivet Assy.	121924	16. Mute & Play Switch & Bracket Assy.	65170-1
5. Ball Bearing	59654	Over-Center Spring	65170-A
6. Pivot Casting & Arm Assy.	122093	Fiber	123336
Record Actuating Arm &		Optional Switch Assy.	123336-A
Shaft Assy., L.H.	122094	Over-Center Spring	123329-B
Record Actuating Arm &		Washer	121909
Shaft Assy., R.H.	122095	17. Transfer Switch & Bracket Assy.	59569-2
7. Hub, Selector Drive Clutch	118254	Over-Center Spring	123329
Roll Pin	73782-88	Optional Switch Assy.	123329-A
8. Spring, Drive Clutch	59584	Over-Center Spring	123329-B
Felt, Washer (2)	59655	Washer	59513
Washer (2)	59647	18. Cancel Lever, Hub & Roller Assy.	59631
9. Gear & Ratchet Wheel	116986	Cancel Casting	73782-66
10. Ball Race	59637	Roll Pin	73782-70
Washer (2)	59641	Roll Pin	65809
Retaining Ring	73727-112	19. Spring, Return, Cancel Lever	110934
Oil Guard	66580	Spring, Cancel	73793-125
11. Main Cam & Bushing	62792	Screw, 10-32 x 1-3/4", Hex	59537
12. Link & Lever Assy., Record Arm	59599	20. Pawl Assy.	59626
13. Chassis Frame Casting & Shaft Assy.	115856	21. Strap & Spring Assy.	59612
14. Toggle Switch, Record Loading	119785	Spring	113205
15. Actuator Arm Assy., Mute & Play		22. Bracket & Nut Assy.	65805
Switch	62761	Lever	59894
Spring	62773	Spring	
Nylon Tip, Actuator	58255		

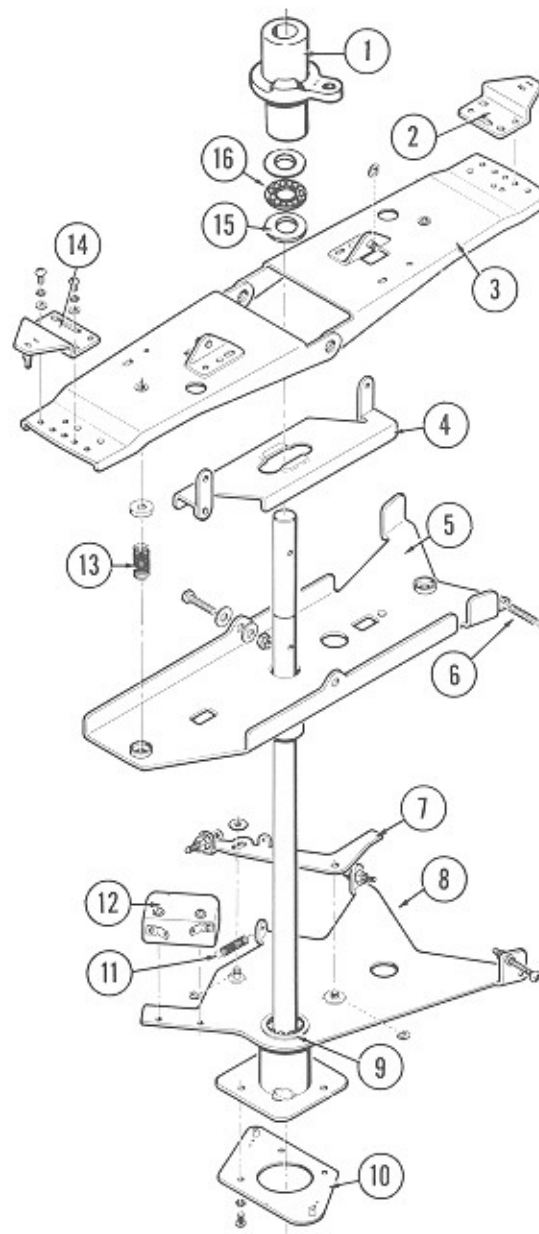


FIG. 104. SELECTOR CRANK AND SHAFT ASSEMBLY

	2800	2810		2800	2810
1. Sleeve & Bushing Assy.	68483	115772	Retaining Ring (2)	73724-18	73724-18
2. Tip & Mounting Bracket Assy., Inner	110936	116733	8. Selector Shaft Assy.	115669	121923
3. Selector Crank & Stop Nut Assy. (2)	110944	115770	9. Ball Bearing (22)	25358	25358
4. Actuator Arm & Link Assy. Retaining Ring (2)	110939	115767	10. Contact Plate Assy.	68582	115769
5. Mounting Plate & Bushing Assy.	124119	124116	11. Spring, Switch Actuator	68774	68774
6. Spring, Kickoff	68774	110480	12. Switch	60655	60655
7. Switch Lever & Stop Nut Assy.	110937	115765	13. Spring (2)	65809	65809
			14. Tip & Mounting Bracket Assy., Outer	110930	116732
			15. Thrust Washer (2)	122630	122630
			16. Ball Race	122631	122631

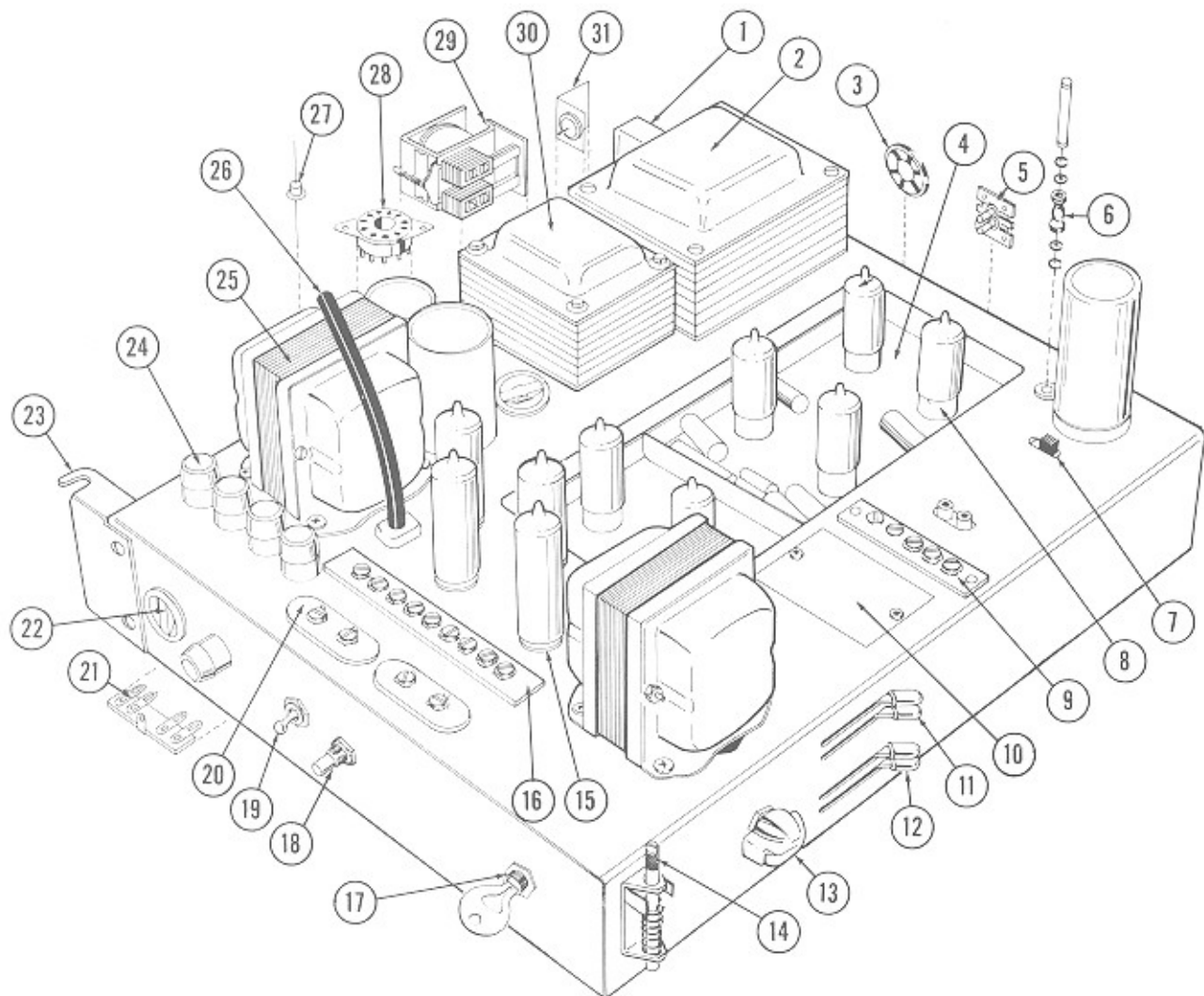


FIG. 105. MODEL 545 AMPLIFIER

1. Guide Bracket	123859	17. Loudness Control	120699
2. Transformer, Low Voltage	120689	Key, Loudness Control	984
3. Socket, 6 Pin	32881	18. Switch, Cancel	68770
4. Printed Board Assy.	123855	19. Switch, Line	121301
5. Receptacle, Input	113420	20. Terminal Strip, 2	24558
6. Isolator (4)	15137	21. Insulated Terminal Strip, 4 Lug	24277
Stud (4)	66378	Insulated Terminal Strip, 1 Lug	23027
Retaining Ring (8)	73724-18	Insulated Terminal Strip, 2 Lug	20156
7. Slide Switch	116724	Insulated Terminal Strip, 5 Lug	18831
8. Socket & Paint Assy.	121759	22. Receptacle, 2 Pole	13037
9. Terminal Strip, 5	115492	23. Hinge Bracket	122399
10. Cover Plate, Motor	120719	24. Fuse Post (5)	121809
11. Switch, Tone Control, Bass	120706	Fuse, 15A	71590-48
Tip, Actuator, Red (2)	120692	Fuse, 5A	71590-27
12. Switch, Tone Control, Treble	120706	Fuse, 8A	71590-33
Tip, Actuator, Black (2)	110595	Fuse, 1.6A	71591-15
13. Balance Control, Potentiometer	123967	25. Transformer, Audio (2)	120691
Knob, Black	20263	26. Line Cord	67464
14. Lock Screw	122401	27. Rectifier, Silicon Diode,	
Spring	57107	500 P.I.V. (2)	71588-6
Retaining Ring	73724-25	Rectifier, Silicon Diode, 50 P.I.V.	71588-12
Mounting Bracket	122400	28. Socket, 11 Pin	38492
Stop Bracket	124185	29. Relay, RY-5	120694
15. Socket & Paint Assy.	121838	30. Transformer, Amplifier	116645
16. Terminal Strip, 9	63604	31. Rectifier & Mounting Bracket Assy. (2)	120696

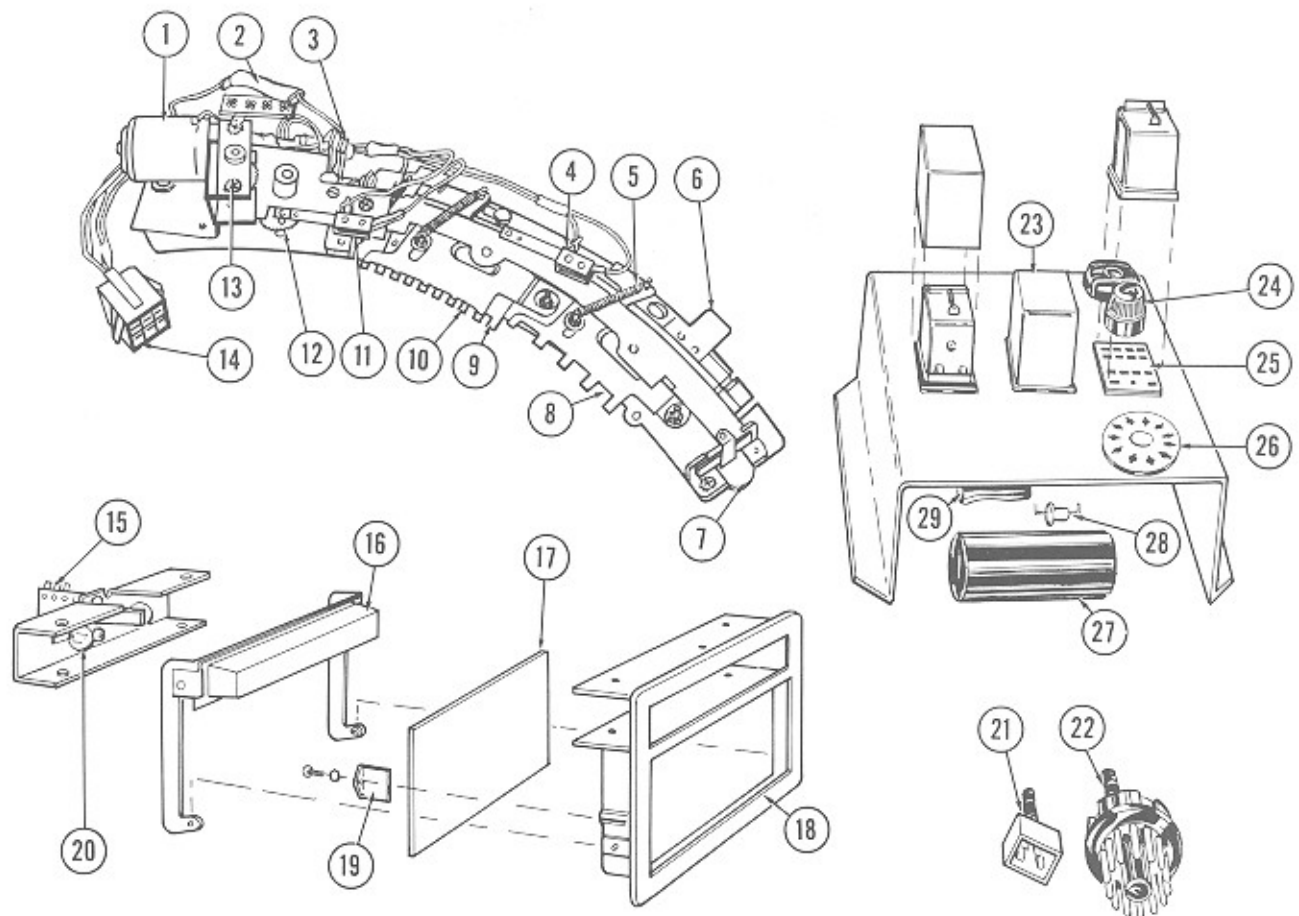


FIG. 106. TOP TUNES AND ALBUM AUTOMATIC PROGRAMING ASSEMBLY

	2800	2810		2800	2810
1. Motor & Worm Assy.	124246	124246	16. Button & Pivot Bracket Assy.	124070	124070
2. Choke (2)	121291	121291	17. Window Blank, Translucent,		
Insulated Mounting Strip (2)	20812	20812	White	121956	121956
3. Switch, Full Cycle	124015	124015	Window Blank, Clear	121955	121955
4. Switch, Release	124002	124002	Coin Denomination Label	123986	123986
5. Spring	124086	124086	18. Window Casting & Latch		
6. Slide, Mounting Plate &			Plate Assy.	122536	122536
Slide Assy.	124072	124096	19. Clip (2)	122045	122045
7. Trip Lever & Bearing Assy.	124084	124108	Screw, 5-40x 1/4", R. Hd.	73533-12	73533-12
8. Actuator & Pin Assy., 10 T.T.	124074	124098	20. Lamp, 6.3V., No. 12	111816	111816
Actuator & Pin Assy., 9 T.T.	124075	124099	21. Cap, 6	113527	113527
Actuator & Pin Assy., 8 T.T.	124076	124100	22. Plug, 12	114324	114324
Actuator & Pin Assy., 7 T.T.	124077	124101	23. Relay, 24 Volt, D.C., White	122133	122133
Actuator & Pin Assy., 6 T.T.	124078	124102	24. Fuse Post	121809	121809
9. Actuator & Pin Assy., Album	124031	124049	Fuse, 1-1/4 Ampere	71591-13	71591-13
10. Actuator & Pin Assy., T.T.	124073	124097	25. Socket, Relay	122131	122131
11. Switch	124014	124014	Retainer	122132	122132
12. Gear & Shaft Assy.	124026	124026	26. Socket, 12	114325	114325
Spring Washer	73632-112	73632-112	27. Capacitor, 100 Mfd., 50V.	73846-32	73846-32
Retaining Ring	73724-18	73724-18	Capacitor, 4 Mfd., 250V.	73835-55	73835-55
Link	124016	124016	Capacitor, .1Mfd., 400V.	74321-14	74321-14
13. Gear, Pinion & Bracket Assy.	124245	124245	28. Rectifier, Silicon Diode,		
14. Socket, 6	113528	113528	500 P.I.V.	71588-6	71588-6
Contact	111527	111527	29. Resistor, 25 ohm, 5W.	71887-2	71887-2
15. Switch	121933	121933	Resistor, 150 ohm., 5W.	71883-2	71883-2

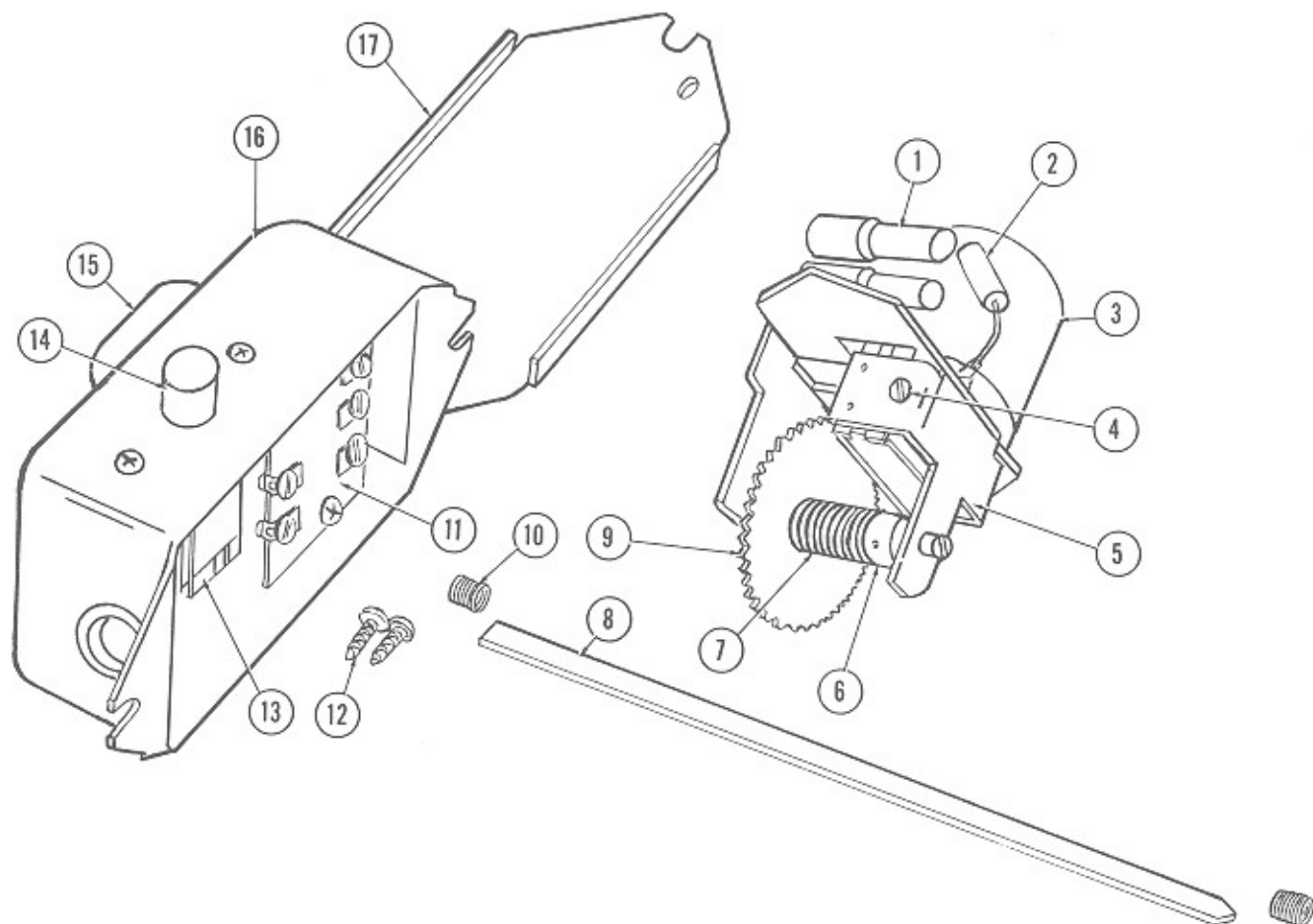


FIG. 107. 169-A REMOTE VOLUME CONTROL

1. Choke (2)	121291	9. Gear	120866
Cable Clamp	74264-5	10. Spring Connector (2)	120863
2. Resistor, 47 ohm, 1/2W. (2)	72160-32	11. Terminal Board & Lug Assy.	121235
3. Motor, Mtg. Brkt. & Wire Assy.	121006	12. Mounting Screw, 1/2"-8, R.H., Type A	73592-20
Motor & Pinion Assy.	120880	13. Switch, Cancel	120708
4. Mounting Screw, 6-32 x 1/4", Hex, Type 23 (2)	73776-22	14. Push Button Knob	120988
5. Mounting Bracket Assy.	120872	15. Switch, Loudness Control Knob	120984 120989
6. Spring Retainer	120871	16. Control Case Assy., Complete	121008
Roll Pin (2)	73782-6	Case	120985
7. Spring	120998	17. Bottom Cover	120987
8. Connector Link	120862		

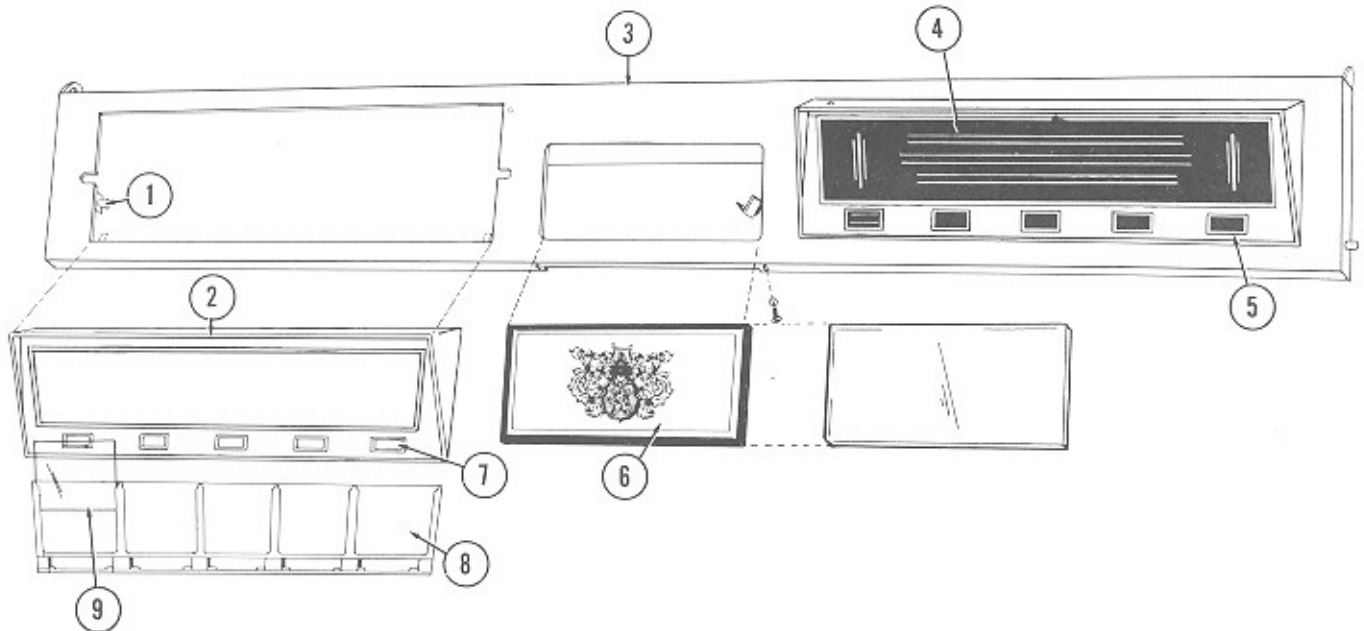


FIG. 108. DISPLAY DOOR ASSEMBLY

1. Slide Catch	123763	Instruction Plate & Silk Screen Assy.	123997
Washer	27787	"Selection of The Top Tunes By	
Spring	123973	Golden Bar Will Feature Program	
Retaining Ring	73724-18	Indicated Below" "J1-K9" (2800)	
2. Window & Spring Assy. (2)	123826	Instruction Plate & Silk Screen Assy.	124335
Screw, 6-32 x 1/4", Pan	74416-22	"Little LP's Give You Faithful	
3. Display Door & Spring Assy.	123825	Reproduction of The Top Sound	
4. Instruction Plate & Silk Screen Assy.	123907	Tracks From Selected Best-Selling	
"These Records Have Been Specially		Albums - You'll Like Them!"	
Chosen For Your Listening Pleasure		Decorative Plate & Silk Screen Assy.-	
Enjoy Them"		Stars	124618
Instruction Plate & Silk Screen Assy.	123914	5. Filler Strip, Blank, Pressure	
"Selection of Top Album Music By		Sensitive, R.H.	124354
Golden Bar Will Feature Program		Filler Strip & Silk Screen Assy.,	
Indicated Below" "E1-E0" (2810)		Album, J1-J0	123974
Instruction Plate & Silk Screen Assy.	123916	Filler Strip & Silk Screen Assy.,	
"Selection of The Top Tunes By		Album, E1-E0	123975
Golden Bar Will Feature Program		6. Glass & Silk Screen Assy.	123994
Indicated Below" "E1-F9" (2810)		Card Holder, Display (2) Clear	124780
Instruction Plate & Silk Screen Assy.	123976	7. Filler Strip & Silk Screen Assy.	124236
"Selection of Top Album Music By		"Colored Slips Indicate Album Music"	
Golden Bar Will Feature Program		Filler Strip, Blank Insert, L.H.	123901
Indicated Below" "J1-J0" (2800)		8. Album Holder	123745
(Cont. next column)		9. Cover, Album, Clear Vinyl	124344

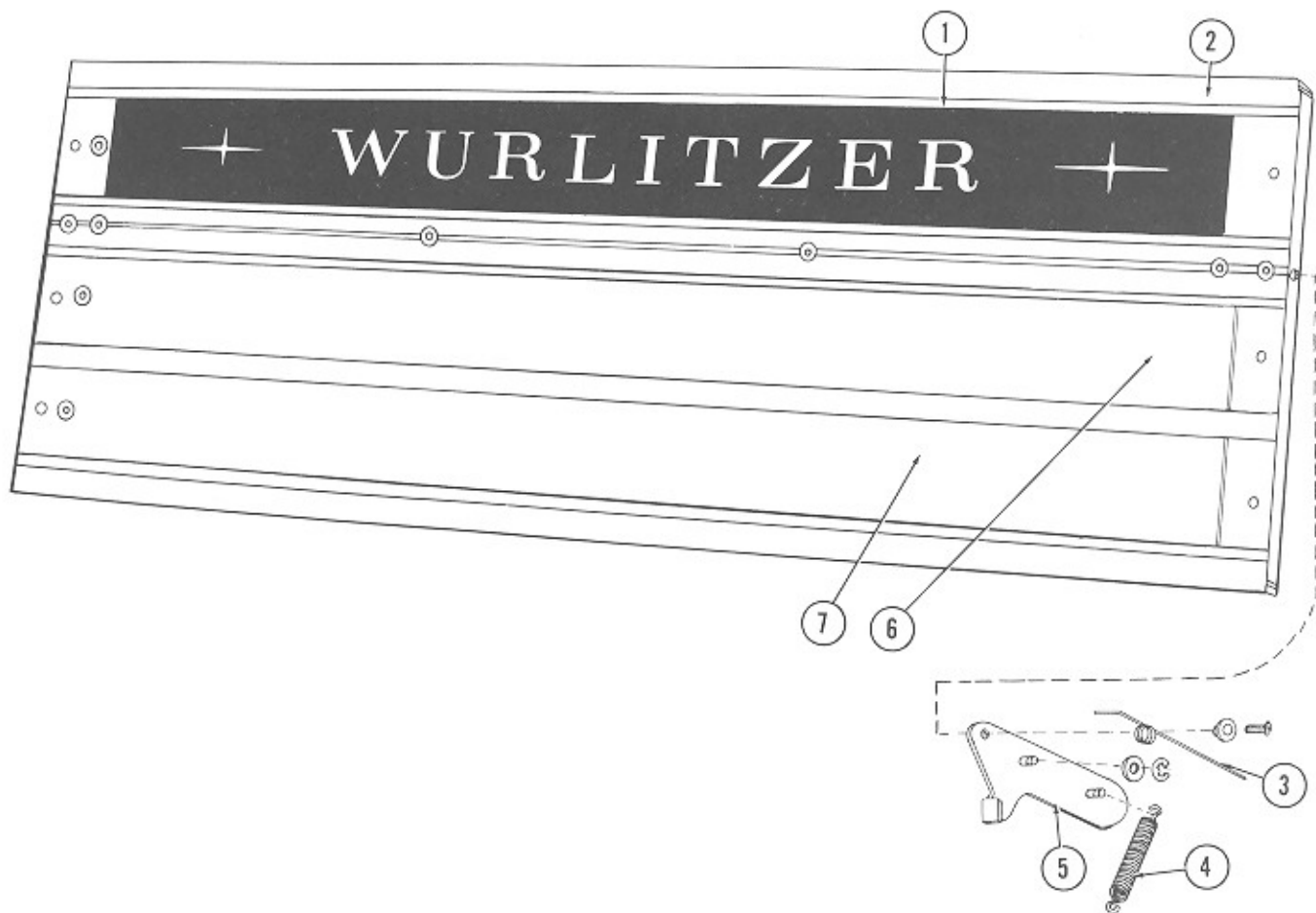


FIG. 109. DISPLAY SIGN ASSEMBLY

1. Display Card, Upper, "Wurlitzer"	123895	Display Sign, Center	123899
2. Display Sign Assy.	123779	"features Top Album Music Deposit Half Dollar Press Golden Bar"	
3. Torsion Spring, R.H.	124164	Display Sign, Center	123896
Torsion Spring, L.H.	124342	"Featuring Recorded Specialities for Every Taste"	
4. Spring (2)	122424	Display Sign, Center	124333
5. Bracket & Nut Assy., Slide, R.H.	123714	"Enjoy Little LP Album Music"	
Bracket & Nut Assy., Slide, L.H.	123713	7. Display Sign, Lower	123900
Retaining Ring (2)	73724-18	"Enjoy A Select Program of Music by Famous Artists"	
Flat Washer (2)	55996	Display Sign, Lower	124334
6. Display Sign, Center	123898	"Three Tunes on Each Side are A Musical Bargain"	
"features Ten Top Tunes Deposit Half Dollar Press Golden Bar"			

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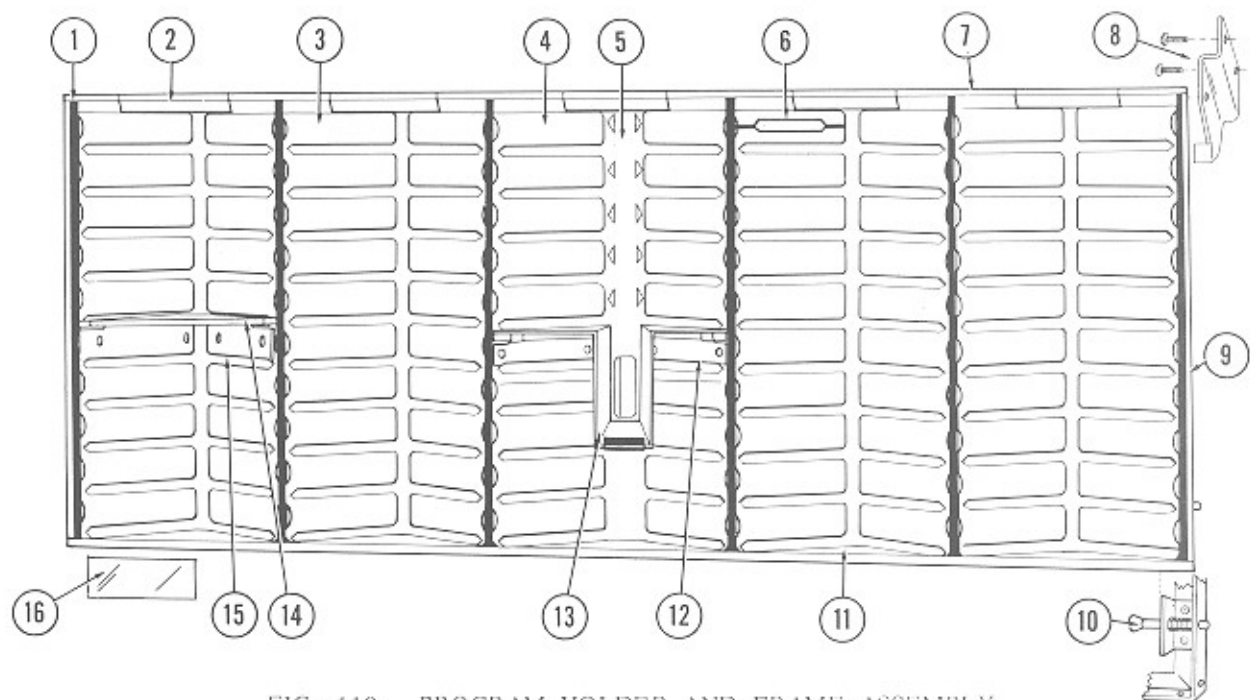


FIG. 110. PROGRAM HOLDER AND FRAME ASSEMBLY

	2800	2810		2800	2810
1. Extrusion & Paint Assy., A1-A0		122428	Classification Slip, Country & Western	121975	121975
Extrusion & Paint Assy., B1-C0		122429	Classification Slip, Music of The Week	121976	121976
Extrusion & Paint Assy., D1-E0		122430	Classification Slip, Little LP	121977	121977
Extrusion & Paint Assy., F1-G0		122431	3. Program Holder (4)	121984	121984
Extrusion & Paint Assy., H1-J0		122432	4. Program Holder	121983	121983
Extrusion & Paint Assy., K1-K0		122433	5. Insert, Program Holder, Top Tunes (10 Arrows)	123913	123913
Extrusion & Paint Assy., A1-C0	121985		Insert, Program Holder, Album (5 Arrows)	123915	123915
Extrusion & Paint Assy., B1-G0	121986		Insert, Program Holder, Top Tunes, 9-8-7-6-5	123795-S	123795-S
Extrusion & Paint Assy., F1-L0	121987		to 123799-S	123799-S	123799-S
Extrusion & Paint Assy., K1-Q0	121988		Insert, Program Holder, Album, 8-6-4	124239	124239
Extrusion & Paint Assy., P1-U0	121989		to 124241	124241	124241
Extrusion & Paint Assy., T1-V0	121990		Insert, Program Holder, Stars	123911	123911
Screw, 3/8-6, Truss Hd., Type Z	74443-7	74443-7	6. Title Strips, Double	62604	62604
2. Classification Slip, Hit Tunes	121968	121968	7. Light Shield	123498	123498
Classification Slip, Rhythm & Blues	121969	121969	8. Hinge Bracket, R.	123501	123501
Classification Slip, Polkas & Waltzes	121970	121970	Hinge Bracket, L.	123500	123500
Classification Slip, Jazz & Novelty	121971	121971	Shoulder Rivet	122009	122009
Classification Slip, Stereo Albums	121972	121972	9. Program Holder Frame Assy.	123497	123497
Classification Slip, Old Favorites	121973	121973	10. Slide Catch	122006	122006
Classification Slip, Classical	121974	121974	Washer	27787	27787
			Spring	122427	122427
			Retaining Ring	73724-18	73724-18
			11. Light Shield, Lower	123499	123499
			12. Retainer	124187	124294
			13. Divider		122489
			Extrusion, Vinyl		122867
			14. Divider, Program Holder		122488
			15. Clamp		122487
			16. Cover, Program Slips, Transparent Yellow	124263	124263

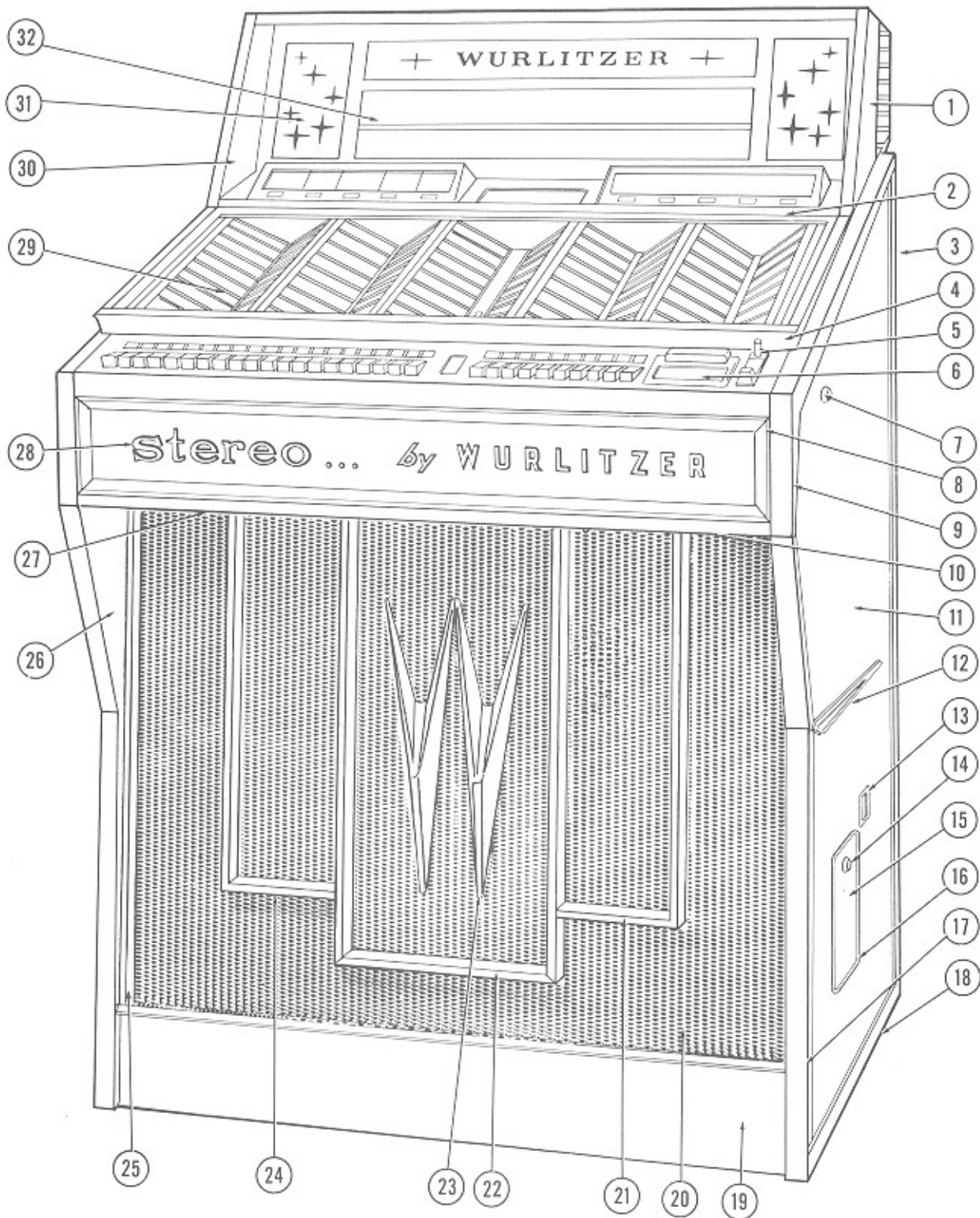


FIG. 111. TRIM AND MOUNTING - FRONT VIEW - 2800


 FIG. 111. TRIM AND MOUNTING - FRONT VIEW - 2800

1. Casting, Door Frame, R.H.	123441	17. Moulding, Front, R.H.	123452
Casting, Door Frame, L.H.	123440	Moulding, Front, L.H.	123451
2. Extrusion, Front Door	123462	18. Moulding, Lower, R.H.	123468
3. Extrusion, Rub Rail, R.H.	123454	Moulding, Lower, L.H.	123469
Extrusion, Rub Rail, L.H.	123453	19. Kick Plate Front	123470
4. Casting, Door Frame Bottom	123447	20. Grille Screen	123492
5. Reject Button	124322	21. Extrusion, R.H.	123461
Retaining Ring	73724-43	22. Extrusion, Center Grille	123459
6. Coin Denomination Label, Top Tunes	123986	23. V Casting (2)	123446
Coin Denomination Label, Standard	123985	24. Extrusion, L.H.	123460
Coin Denomination Label, 5¢ Play	124442	25. Extrusion,Grille, L.H.	123455
7. Lock Assy.	120718	Extrusion,Grille, R.H.	123456
R. W. 95 Key	118633	26. Side Plate Grille, L.H.	123466
8. Extrusion Frame	123457	Side Plate, Grille, R.H.	123467
9. Casting, Upper Side, R.H.	123443	27. Light Diffuser & Paint Assy.	123746
Casting, Upper Side, L.H.	123442	28. Glass,Front	123817
10. Grille Plate & Hinge	123744	29. Glass,Door, 2800	123463
11. Di-Noc Side, Left or Right	123708-A	Glass,Door, 2810	123464
Welding Solution, Pint Can	69753-A	30. Decorative Panel & Mounting Plate	
12. Casting, R.H. Side	123450	Assy., L.H.	123726
Casting, L.H. Side	123449	Decorative Panel & Mounting Plate	
13. Coin Cup	68192	Assy., R.H.	123727
14. Lock & Key	118412	31. Decorative Glass, Canopy	123755
15. Cash Door	122109	32. Upper Glass, Canopy	123494
16. Cash Door Frame	122107		

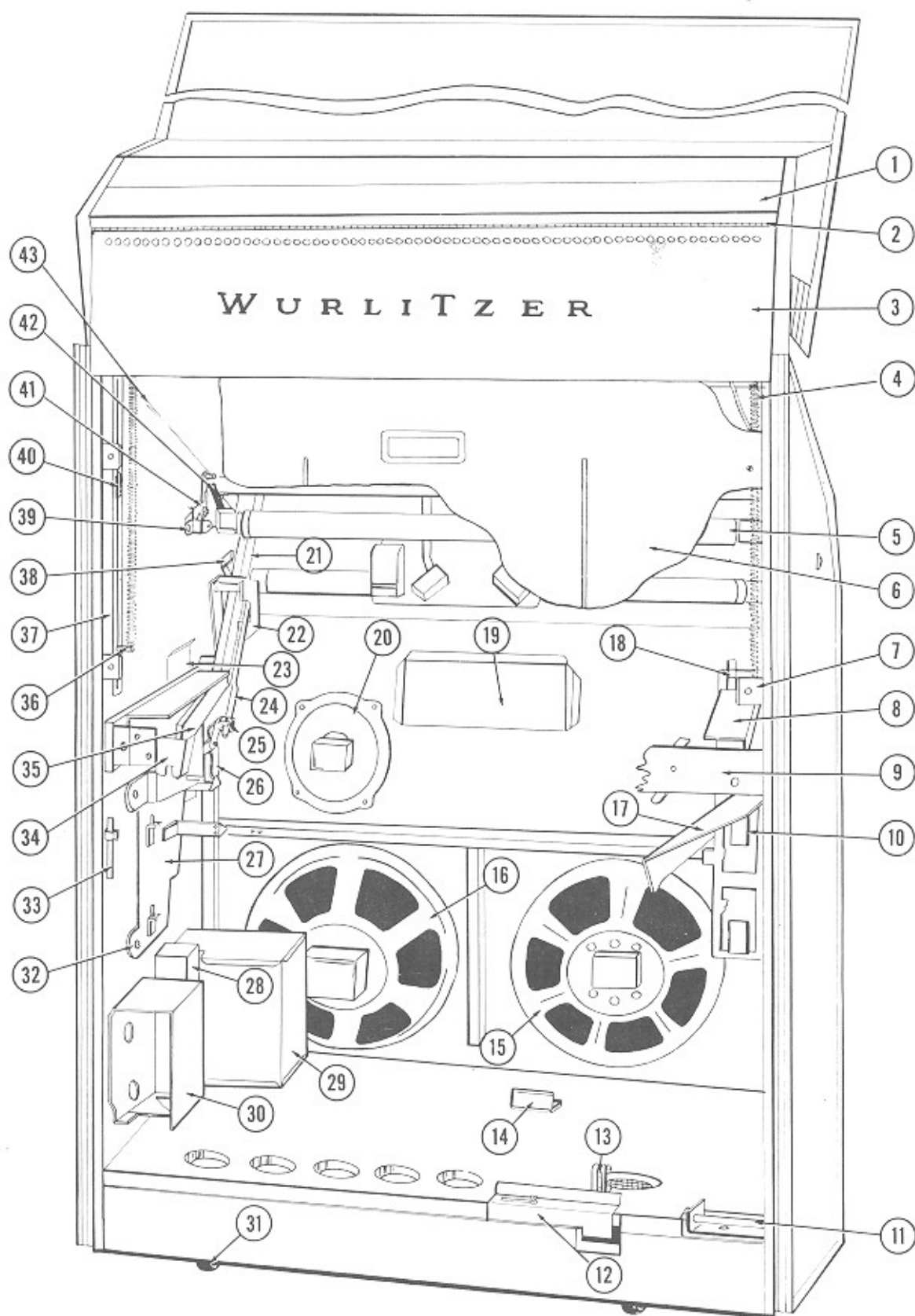



 FIG. 112. TRIM AND MOUNTING - BACK VIEW - 2800

1. Casting, Top	123448	25. Lever & Bracket Assy.	120799
2. Hinge	123704	26. Pin & Actuator Assy.	120964
3. Cross Rail & Silk Screen Assy.	123491	Shaft	68300
4. Spring, Fall Support Return (2)	123774	Spring	122413
5. Fluorescent Lamp, 25W, 28" (3)	122411	Retaining Ring (2)	73724-25
Lamp Socket	122743	27. Mounting Plate & Spring Catch Assy.	122562
Starter Switch, FS25	57365	28. Anti-Cheat Guard & Bracket Assy.	124314
Socket, Starter Switch	53674	29. Coin Bag Housing Assy.	123482
6. Upper Back & Stud Assy.	123665	Coin Bag	62670
Screw Fastener	123972	Guard, Coin Bag	124669
Spring	123973	30. Box Assy., Coin Register Mechanism	112069
Retaining Washer	124208	Grommet (3)	49884
Lower Back Assy.	123667	31. Caster	122296
Lock Assy.	122322	Caster Socket	69569
7. Bracket & Speed Nut Assy. (4)	124214	32. Mounting Plate	124223
8. Mounting Rail & Bracket Assy., L.H.	123472	Grommet (4)	49884
Mounting Rail & Bracket Assy., R.H.	123473	Spacer (4)	122944
9. Back Rail Assy.	123552	33. Centering Shaft	69247
Thumb Screw (4)	123106	34. Lower Coin Chute Assy.	68552
10. Ballast (3)	123950	35. Coin Chute Assy., Lower	123548
11. Guide Plate Assy.	123485	Cover, Coin Chute	123019
Back Plate & Guide Bracket Assy.	123483	36. Fall Support, R.H.	123514
12. Cable Retainer	123601	Fall Support, L.H.	123513
Thumb Screw	119079	37. Guide Assy., Fall Support, R.H.	123829
13. Harness Clamp	73802-7	Guide Assy., Fall Support, L.H.	123830
14. Clamp, Junction Box	49932	38. Mounting Bracket & Latch Assy., R.H.	123707
15. Speaker, 12", P.M., 8 ohm	117754	Mounting Bracket & Latch Assy., L.H.	122452
16. Speaker, 12", P.M., 16 ohm	120777	Spring	122454
17. Heat Shield	123980	39. Actuator & Pin Assy., R.H.	122102
18. Socket, 4 Circuit	122650	Actuator & Pin Assy., L.H.	122101
Cap, 4 Circuit	122649	40. Spring, Fall Support Stop (2)	123520
19. Light Shield	123465	41. Locking Lever & Strike Assy., R.H.	123526
20. Speaker, 6", P.M., 8 ohm	124121	Locking Lever & Strike Assy., L.H.	123525
21. Coin Entry Chute Assy.	123541	42. Mounting Bracket & Spring Assy., R.H.	124362
22. Mounting Bracket, Reject Rod	123539	Mounting Bracket & Spring Assy.,	
Pivot Bracket, Reject Rod	123540	L.H.	124361
23. Retainer, Envelope	124365	43. Pad, Sponge Rubber, Pressure	
24. Reject Rod Assy.	123538	Sensitive	74990-1

WARRANTY

The component parts of automatic phonographs and accessory equipment manufactured by the Wurlitzer Company are warranted to be free from defects in material and workmanship and to operate properly under normal use and conditions, as follows:

- (A) Mechanical parts (Excluding coin equipment) for a period of one year from date of delivery by the Distributor to his customer.
- (B) Coin equipment and electrical parts (Including such parts as tubes, speakers, volume control assemblies, pick-up assemblies, amplifiers, motors, junction box assemblies, and all wiring) for a period of three months from date of delivery by the Distributor to his customer.
- (C) Cabinets (Subject to the Company's inspection and determination as to defect) for a period of three months from date of delivery by the Distributor to his customer.

The company's liability under this warranty is limited to replacement, free of charge, F.O.B. North Tonawanda, New York, of any part or parts which prove defective within the limitations of said warranty. The Company shall not be liable for damages of any nature due to delayed shipment, or defective parts.

THE WURLITZER COMPANY
NORTH TONAWANDA, N. Y.

COMBINED NUMERICAL PARTS LIST

Part No.	Description	Page No.	2800	2810
665	Taper Pin, 4/0	73	x	x
891	Nut, 6-32	61	x	x
984	Key, Loudness Control	78	x	x
10964	Socket, 8 Prong	66	x	x
13037	Receptacle, 2 Pole	78	x	x
15137	Isolator	78	x	x
16607	Plug, 6 Prong	68	x	x
16610	Cap	65	x	
16614	Plug, 8 Prong	61	x	x
18831	Insulated Mounting Strip, 5 Lug	78	x	x
20156	Insulated Mounting Strip, 2 Lug	78	x	x
20263	Knob, Black	78	x	x
20812	Insulated Mounting Lug, 3 Terminals	79	x	x
21934-A	Absorbed Oil, 1 Pt. Can	32	x	x
22810	Washer, Special	61	x	x
23027	Insulated Mounting Strip, 1 Lug	78	x	x
23355	Cotter Pin	59	x	x
24277	Insulated Mounting Strip, 4 Lug	78	x	x
24558	Terminal Strip	78	x	x
24689	Lamp, 6.3V. #44	61	x	x
25358	Ball Bearing	77	x	x
27787	Washer, Special	81	x	x
30495	Socket, 4 Prong	63	x	x
32881	Socket, 6 Prong	63	x	x
35745	Thumb Screw, Heat Shield	58	x	x
38492	Socket, 11 Prong	64	x	x
38493	Plug, 11 Prong	59	x	x
42868	Adjustment Cam	6	x	x
45345	Electric Counter	61	x	x
46107	Steel Ball	26	x	x
46602	Fuse Mounting Strip	67	x	x
48501	Plug, 11 Prong,	64	x	
49884	Grommet, Vibration Absorbtion	69	x	x
49932	Clamp	87	x	x
50494	Washer	70	x	x
53541	Washer	59	x	x
53674	Socket, Starter	87	x	x
53774	Conical Spring - Chassis Mount (Red Dot)	73	x	x
54246	Bumper	74	x	x
55996	Washer	82	x	x
56530	Washer	32	x	x
57107	Spring	78	x	x
57110	Spring, Selector Latch Pin	63		x
57365	Fluorescent Starting Switch, 25W.	87	x	x
58255	Actuator	76	x	x
58420	Tube, 12AU7A	35	x	x
58427	Tube, 12AX7A	35	x	x
58781	Cancel Spring	59	x	x
58898	Socket, 11 Prong	65	x	
59280	Thumb Screw	67		x
59393	Shaft, Tone Arm	71	x	x
59394	Pivot Screw, Tone Arm	68	x	x
59396	Bumper, Record Guide	72	x	x
59400	Shaft	25	x	x
59406	Arm and Hub Assy., Tone Arm Release	71	x	x
59411	Bushing, Trip Switch	68	x	x

Part No.	Description	Page No.	2800	2810
59415	Pulley, Turntable Clamp	30	x	x
59425	Track, Record	19	x	x
59440	Washer, Thrust Bearing	71	x	x
59456	Fly Wheel, Turntable	32	x	x
59470	Hex Nut, Turntable Shaft, 7/16-20	32	x	x
59513	Cancel Lever, Hub and Roller Assy.	16	x	x
59537	Pawl Assy.	76	x	x
59546	Groove Pin	72	x	x
59569-2	Over-Center Spring (Stainless Steel)	76	x	x
59571	Oil Slinger	32	x	x
59584	Spring, Selector Drive Clutch	76	x	x
59599	Link and Lever Assy., Record Lift	16	x	x
59606	Spring	72	x	x
59612	Spring, Friction Drive	76	x	x
59615	Spring, Trip Switch	68	x	x
59626	Strap and Spring Assy., Friction Drive	76	x	x
59631	Cancel Casting	76	x	x
59637	Ball Race, Main Cam Shaft	76	x	x
59641	Washer, Thrust Bearing, Main Cam	76	x	x
59647	Washer	76	x	x
59654	Ball Bearing, Selector Shaft	76	x	x
59655	Felt Washer	76	x	x
59679	Ball Race, Tone Arm Shaft	71	x	x
59688	Lever Assy., Record Clamp	30	x	x
59704	Mounting Bracket and Roller Assy.	18		x
59710	Spring	25	x	x
59719	Idler Pulley and Bracket Assy.	74	x	x
59722	Hub and Lever Assy., Tone Arm Release	30	x	x
59734	Clamp, Record Holder	73	x	x
59735	Idler Pulley	30	x	x
59844	Bracket and Roller Assy.	73	x	
59864	Washer, Turntable Shaft	32	x	x
59867	Ball Race, Turntable Shaft	32	x	x
59869	Shaft, Record Guide Pivot	72	x	x
59871-A	Cable Assy., Tone Arm and Record Clamp	30	x	x
59881	Sleeve, Brush Cable	68	x	x
59891	Sleeve, Record Clamp Cable	31	x	x
59892	Pivot Casting, Record Guide	72	x	x
59894	Spring, Play Meter Actuating Arm	76	x	x
59900	Insulator	68	x	x
59908	Spring Pin, Pivot Casting	72	x	x
59911	Plate and Ball Bearing Assy.	71	x	x
60518	Switch Assy., Latch	7	x	x
60519	Bracer Rod, Top Support Casting	74	x	x
60574	Grommet	67	x	x
60575	Cup Washer	67	x	x
60626	Pivot Arm and Roller Assy.	18		x
60655	Switch	77	x	x
60657	Mounting Bracket and Pin Assy.	18		x
60658	Mounting Bracket and Roller Assy.	74		x
60677	Spring, Roller Assy.	74		x
60711	Guide Tip, L.H., Record Lift Arm	76		x
60717	Solenoid, Pre-Set	61	x	x
60717-A	Plunger, Pre-Set Solenoid	7	x	x
60882	Rubber Mount, T.T. Drive Motor	69	x	x
60912	Bulk Cable, Tone Arm Brush	29	x	x
61004-A	Teflon Shim Washer, Stepper Ratchet Shaft	66	x	x

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61059	Spring, Conical, Chassis Mount, Yellow Dot	73	x	x
61111	Spring Pin	24	x	x
61484	Guide Tip, R.H.	76		x
61574	Mounting Bracket and Idler Pulley	73	x	x
61850	Guide, Selector Mounting Stud	15		x
61857	Socket, Fustat	67	x	x
61858	Fustat, 3 Ampere	67	x	x
62145	Spring, Coin Selector	59	x	x
62604	Program Cards, Title Strips	83	x	x
62670	Coin Bag Assembly	87	x	x
62761	Actuator Arm Assy.	23	x	x
62768	Cam Lobe, Mute and Play Switch	22	x	x
62769	Stop Plate, Mute and Play Switch Actuator Arm	22	x	x
62773	Spring, Mute and Play Switch Actuating Lever.	76	x	x
62792	Main Cam and Bushing Assy.	16	x	x
63604	Terminal Strip, 9	78	x	x
63692	Washer, Phosphor Bronze	59	x	x
63731	Shim, Metal, Turntable Shaft	32	x	x
63732	Washer, Fiber, Turntable Shaft	32	x	x
64190	Pulley, Turntable	32	x	x
64423	Latch, Tone Arm	27	x	x
64512	Clamping Plate	32	x	x
64513	Screw, Turntable Sleeve, 1/4"-28	32	x	x
64520	Sleeve and Bushing Assy.	32	x	x
64595	Insulator	63		x
64602	Solenoid, Selector	13		x
64630	Roller Assy.	63		x
64649	Stop Pivot, Selector	63		x
64766	Washer, Selector Pin Solenoid	64	x	x
64773	Spring, Stop Arm	63		x
64780	Spring, Solenoid	64	x	x
64783	Spring and Plug Assy.	12		x
65069	Cancel Solenoid	59	x	x
65096	Spring, Turntable Release Lever	68	x	x
65170	Mute and Play Switch and Bracket Assy.	76	x	x
65170-1	Toggle Spring, Mute and Play Switch	76	x	x
65170-A	Fiber, Mute and Play Switch	76	x	x
65516	Pin, Release Lever Stop	15	x	x
65526	Stop, Guide Tip	17	x	
65548	Connector Bracket, Carrier	73	x	
65730	Guide Tip, R.H.	17	x	
65731	Guide Tip, L.H.	17	x	
65801	Plastic Cover, Stepper	66	x	
65805	Lever, Record Play Counter	76	x	x
65809	Spring, Selector Crank	16	x	x
65812	Spring, Guide Tips	75	x	
65881	Record Actuator Arm and Shaft, L.H.	75	x	
65883	Record Actuator Arm and Shaft, R.H.	75	x	
65885	Bracket and Roller Assy., L.H.	18	x	
65886	Bracket and Roller Assy., R.H.	73	x	
65890	Back Stop Pawl Assy.	73	x	
65908	Record Holder Assy.	73	x	
65947	Pin, Solenoid Shaft	59	x	x
65952	Switch, Override	11	x	
65958	Spring, Record Lift Arm Centering	18	x	
65986	Stud, Roller, Lift Arm Adjustment	18	x	
65989	Roller, Lift Arm Guide.	18	x	

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66065	Link, Solenoid	59	x	x
66069	Stop Bracket, Cancel Pawl	7	x	x
66070	Eyelet	59	x	x
66071	Spring, Cancel	59	x	x
66072	Spring, Solenoid Return	59	x	x
66074	Spring, Accumulator Wheel	59	x	x
66082	Switch Assy., Key	5	x	x
66127	Pin and Pawl Assy.	6	x	x
66132	Stop Lever and Spring Assy.	2	x	x
66182	Plate, Lift Arm Guide	17	x	
66186	Contact Plate Assy.	13	x	x
66378	Stud, Shock Mount	78	x	x
66445	Pin, Hinge	2	x	x
66580	Flanged Washer, Main Cam Shaft	76	x	x
67464	Line Cord Assy.	78	x	x
67920	Rotating Plate, Selector	64	x	
67926	Rocker, Rotating Plate	10	x	
67927	Wobble Ring	11	x	
67928	Support Casting, R.H.	75	x	
68192	Coin Return Cup Casting	85	x	x
68276	Mounting Casting, Stop Solenoid	9	x	
68290	Guide Plate, Record Lift Arm	75	x	
68300	Shaft, Actuator Assy.	87	x	x
68375	Record Guide and Bracket Assy., R.H.	72	x	x
68376	Record Guide and Bracket Assy., L.H.	72	x	x
68483	Sleeve and Bushing Assy., Selector Crank	77	x	
68496	Plunger, Selector Coil Solenoid	10	x	
68521	Tapping Plate	75	x	
68552	Lower Coin Chute Assy.	2	x	x
68558	Shaft, Selector Crank Release	15	x	
68559	Actuator Arm and Hub Assy., Loading	15	x	x
68582	Contact Plate Assy.	77	x	
68594	Solenoid, Selector, Letters	64	x	
68608	Plunger, Stop Solenoid, Selector	64	x	
68617	Solenoid, Selector Stop, No. 2 to 0	9	x	
68650	Spacer, Wobble Ring	11	x	
68651	Bracket and Roller Assy.	64	x	
68656	Roller, Rotating Plate	64	x	
68657	Stud, Guide Roller	64	x	
68684-A	Silicone Grease, 3 Oz. Jar	32	x	x
68700	Support Casting, L.H.	75	x	
68717	Gear and Hub Assy., Selector	9	x	x
68755	Spring, Selector, Rocker	64	x	
68757	Guide Bracket, L.H., Selector Support Casting	13	x	
68758	Guide Bracket, R.H., Selector Support Casting	13	x	
68759	Guide Bracket, L.H., Selector Casting	13	x	
68760	Guide Bracket, R.H., Selector Casting	13	x	
68770	Cancel Switch	78	x	x
68774	Spring, Switch Lever	77	x	x
68799	Silk Screen and Support Plate Assy.	14	x	
68804	Solenoid, Selector Stop, No. 1	9	x	
68920	Terminal Strip	66	x	x
69089	Plug, 4 Prong, Tone Arm	68	x	x
69090	Socket, 4 Prong	71	x	x
69246	Stud, Selector	64	x	
69247	Centering Shaft, Selector Shaft	13	x	x
69569	Socket, Caster	87	x	x

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69659	Stud, Eccentric, Guide Roller	64	x	
69753-A	Welding Solution, 1 Pt. Can	85	x	x
69839	Insulator, Switch	64	x	
69936	Slug Rejector, 5-10-25-50	58	x	x
70684-2	Resistor, 310 ohm, 5W.	63	x	x
71217-14	Capacitor, .01 Mfd., 400V.	66	x	x
71493-37	Screw, 8-32 x 7/16", Hex. Hd.	29	x	x
71493-40	Screw, 8-32 x 3/4", Hex. Hd.	8	x	x
71499	Capacitor, 250 Mfd., 50V.	67		x
71588-6	Silicon Rectifier, 500 P.I.V.	78	x	x
71588-12	Silicon Rectifier, 50 P.I.V.	78	x	x
71590-27	Fuse, 5 amp.	78	x	x
71590-33	Fuse, 8 amp.	78	x	x
71590-48	Fuse, 15 amp.	78	x	x
71591-6	Fuse, Slow Blo, 5/10 amp.	66	x	x
71591-10	Fuse, Slow Blo, 8/10 amp.	63	x	x
71591-13	Fuse, Slow Blo, 1-1/4 amp.	34	x	x
71591-15	Fuse, Slow Blo, 1-6/10 amp.	78	x	x
71816	Capacitor, 500 Mfd., 50V.	66	x	x
71878-6	Strain Relief	59	x	x
71883-2	Resistor, 150 ohm, 5W.	61	x	x
71887-2	Resistor, 25 ohm, 5W.	59	x	x
72160-32	Resistor, 47 ohm, 1/2W.	80	x	x
72935-2	Resistor, 125 ohm, 10W.	61	x	x
72986-2	Resistor, 50 ohm, 5W.	63	x	x
73099-240	Capacitor, 0.5 Mfd., 400V.	67	x	x
73502-95	Screw, 10-32 x 1", R. Hd.	21	x	
73502-99	Screw, 10-32 x 1-3/4", R. Hd.	30	x	x
73503-4	Screw, 6/32 x 1", R. Hd.	61	x	x
73503-25	Screw, 4-40 x 3/8", R. Hd.	73	x	
73503-71	Screw, 6-32 x 5/8", R. Hd.	24	x	x
73503-91	Screw, 8-32 x 3/4", R. Hd.	18	x	
73503-95	Screw, 8-32 x 1-1/4", R. Hd.	21	x	
73511-29	Set Screw, 8-32 x 3/16"	15	x	x
73513-19	Screw, 6-32 x 3/16", Socket Hd.	26	x	x
73533-1	Screw, 4-40 x 3/16", R. Hd.	6	x	x
73533-2	Screw, 4-40 x 1/4", R. Hd.	34	x	x
73533-3	Screw, 4-40 x 5/16", R. Hd.	19	x	x
73533-7	Screw, 4-40 x 5/8", R. Hd.	75	x	
73533-12	Screw, 5-40 x 1/4", R. Hd.	79	x	x
73533-22	Screw, 6-32 x 1/4", R. Hd.	5	x	x
73533-24	Screw, 6-32 x 3/8", R. Hd.	26	x	x
73533-26	Screw, 6-32 x 1/2", R. Hd.	34	x	
73533-34	Screw, 8-32 x 1/4", R. Hd.	16	x	x
73533-35	Screw, 8-32 x 5/16", R. Hd.	12		x
73533-38	Screw, 8-32 x 1/2", R. Hd.	24	x	x
73533-40	Screw, 8-32 x 3/4", R. Hd.	15		x
73533-106	Screw, 3-48 x 1/2", R. Hd.	75	x	
73534-14	Screw, 5-40 x 3/8", Binding Hd.	22	x	x
73571-66	Screw, 1/4-20 x 1", Socket Hd.	13	x	
73574-31	Screw, 4-40 x 1", R. Hd.	22	x	x
73574-33	Screw, 4-40 x 1-1/4", R. Hd.	22	x	x
73575-100	Screw, 10-32 x 2", R. Hd.	28	x	x
73586-2	Screw, 2-56 x 3/16", F. Hd.	76		x
73592-20	Screw, 1/2"-8, R. Hd.	80	x	x
73602-77	Nut, 1/2"-20, Hex.	64	x	
73604-9	Lock Washer	70	x	x

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73606-1	Lock Washer, No. 2, Countersunk	76		x
73607-12	Lock Washer, 7/16", Internal	32	x	x
73607-13	Lock Washer, 1/2", Internal	64	x	
73623-41	Rivet, Semi-Tubular, 11/64".	61	x	x
73632-18	Spring Washer	70	x	x
73632-112	Spring Washer	79	x	x
73637-10	Nut	73	x	
73656-74	Screw, 6-32 x 1", R. Hd.	23	x	x
73660-86	Screw, 8-32 x 3/4", Hex	26	x	x
73660-159	Screw, 10-32 x 1", Hex	9	x	
73660-161	Adjusting Screw, 10-32 x 1-1/4", Hex Hd.	16	x	x
73676-47	Adjusting Screw, 10-32 x 5/16", R. Hd.	20	x	x
73692-49	Screw, 10-32 x 7/16", R. Hd.	12		x
73724-12	Retaining Ring	69	x	x
73724-15	Retaining Ring	59	x	x
73724-18	Retaining Ring	59	x	x
73724-25	Retaining Ring	59	x	x
73724-31	Retaining Ring	64	x	x
73724-43	Retaining Ring	85	x	x
73724-50	Retaining Ring	63		x
73724-87	Retaining Ring	75	x	x
73727-112	Retaining Ring	76	x	x
73728-25	Retaining Ring	25	x	x
73728-37	Retaining Ring	76	x	x
73776-22	Screw, 6-32 x 1/4", Hex Hd.	80	x	x
73782-6	Roll Pin	80	x	x
73782-32	Roll Pin	64	x	
73782-49	Roll Pin	71	x	x
73782-51	Roll Pin	71	x	x
73782-66	Roll Pin	76	x	x
73782-70	Roll Pin	76	x	x
73782-85	Roll Pin	75	x	x
73782-88	Roll Pin	76	x	x
73785	Lock Nut, 10-32, Hex, Special	16	x	x
73789-15	Lock Nut, 8-32, Hex	26	x	x
73793-86	Screw, 8-32 x 3/4", Hex Hd.	29	x	x
73793-87	Cap Screw, 8-32 x 7/8", Hex Hd.	12		x
73793-88	Cap Screw, 8-32 x 1", Hex Hd.	9	x	
73793-118	Cap Screw, 10-32 x 1/2", Hex Hd.	14	x	
73793-124	Cap Screw, 10-32 x 1-1/2", Hex Hd.	15	x	
73793-125	Cap Screw, 10-32 x 1-3/4", Hex Hd.	15		x
73793-150	Cap Screw, 1/4-20 x 1", Hex Hd.	15	x	x
73793-226	Screw, 10-32 x 5/16", Hex Hd.	30	x	x
73800	Screw, 6-32 x 1-3/8", R. Hd.	23	x	x
73802-7	Harness Clamp	87	x	x
73835-55	Capacitor, 4 Mfd., 250V.	67	x	x
73840-42	Capacitor, 20 Mfd., 50V.	63		x
73845-32	Capacitor, 50 Mfd., 50V.	63	x	x
73846-32	Capacitor, 100 Mfd., 50V.	65	x	x
73862	Capacitor, 100 Mfd., 50V.	67		x
73865-8	Stop Nut, 10-32	27	x	x
73871-18	Lock Nut, 8-32	4	x	x
73889-620	Capacitor, 150 Mfd., 50V.	63	x	x
74264-5	Clamp, Cable	80	x	x
74288-25	Screw, 8-32 x 5/8", R. Hd.	24	x	x
74288-27	Screw, 8-32 x 1", R. Hd.	27	x	x
74321-14	Capacitor, .1 Mfd., 400V.	79	x	x

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74321-16	Capacitor, .1 Mfd., 600V.	63	x	x
74335-22	Screw, 6-32 x 7/16", Truss Hd., Type 23	72	x	x
74402-1	Internal Hair Pin Cotter	64	x	x
74407-50	Screw, 5-40 x 3/16", Pan Hd.	30	x	x
74416-22	Screw, 6-32 x 1/4", Pan Hd.	81	x	x
74443-7	Screw, 3/8 - 6, Truss Hd.	83	x	x
74569-24	Capacitor, .047 Mfd., 400V.	65	x	x
74808	Capacitor, 124-149 Mfd., 50 V.A.C.	63	x	x
74909	Capacitor, 500 Mfd., 50V.	59	x	x
74977-14	Screw, 6-32 x 3/8", Bind. Hd.	59	x	x
74981	Capacitor, 4 Mfd., N.P.	35	x	x
74990-1	Pad, Sponge Rubber	87	x	x
110190	Input Cable Assy.	35	x	x
110480	Spring, Latch Pins	11	x	
110557	Switch, Carriage	21	x	x
110558	Switch, Reversing and Start	9	x	x
110595	Tip, Actuator, Black	78	x	x
110930	Tip and Mounting Bracket Assy., Outer	15	x	
110934	Spring, Cancel Arm	76	x	x
110936	Tip and Mounting Bracket Assy., Inner	14	x	
110937	Switch Lever and Stop Nut Assy.	21	x	
110939	Actuator Arm and Link Assy.	77	x	
110941	Latch Pin, Selector, Inner	10	x	
110942	Latch Pin, Selector, Outer	10	x	
110944	Selector Crank and Bracket Assy.	77	x	
110946	Mounting Plate and Bushing Assy.	21	x	
111481	Rotating Plate and Rocker Assy.	9	x	
111527	Contact	64	x	x
111816	Lamp, 2 Pin, Miniature	71	x	x
111913	Motor and Gear Assy., Selector	64	x	
112069	Box Assy., Coin Mechanism	80	x	x
113204	Pivot Casting and Arm Assy.	75	x	
113205	Bracket and Stop Nut Assy.	76	x	x
113210	Reset Lever Assy., Play Meter	73	x	x
113299	Actuator Arm Assy., Transfer Switch.	22	x	x
113420	Receptacle, Dual, Single Prong	78	x	x
113527	Cap, 6 Circuit.	64	x	x
113528	Socket, 6 Circuit	64	x	x
113789	Contact, #20 to #15 Wire	69	x	x
114046	Tube, 7025	35	x	x
114048	Tube, 6973	35	x	x
114064	Carrier Ring and Silk Screen Assy., F2-L1.	73	x	
114065	Carrier Ring and Silk Screen Assy., A1-R2.	73	x	
114066	Carrier Ring and Silk Screen Assy., L2-R1.	73	x	
114067	Carrier Ring and Silk Screen Assy., A2-F1.	73	x	
114258	Mounting Plate and Socket Assy.	71	x	x
114324	Plug, 12 Prong	66	x	x
114325	Socket, 12 Prong	63	x	x
114346	Stepper Switch Assy.	66	x	
114346-A	Release Latch Relay	67	x	x
114346-AA	Armature and Pawl Spring	67	x	x
114346-B	Step Magnet	67	x	x
114346-BA	Pawl Only	67	x	x
114346-BB	Armature, Step Magnet.	67	x	x
114346-BC	Contact Assy., Step Magnet	67	x	x
114346-C	Delrin Ratchet Wheel, Numbers	67	x	x
114346-D	Delrin Ratchet Wheel, Letters	67	x	x

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114346-E	Contact Plate Assy., Numbers	66	x	
114346-F	Contact Plate Assy., Letters	66	x	
114346-G	Contact Arm, Numbers or Letters	66	x	
114346-J	Frame, Contact Plate, Numbers	67	x	x
114346-K	Frame, Contact Plate, Letters	67	x	x
114484	Spring, Tone Arm Pressure	68	x	x
114528	Stepper Switch Assy.	67		x
114528-E	Contact Plate Assy., 2 Circuit	67		x
114528-F	Contact Plate Assy., 4 Circuit	67		x
114528-G	Contact Arm Assy., 2 Circuit	67		x
114528-H	Contact Arm Assy., 4 Circuit	67		x
115411	Stop Pin, Rotating Plate	9	x	
115492	Terminal Strip, 5	78	x	x
115555	Tube, 7199	35	x	x
115660	Tone Arm Stop Pin Assy.	27	x	x
115668	Arm and Rivet Assy., Selector Shaft	75	x	
115669	Selector Shaft and Adjusting Plate Assy.	21	x	
115684	Casting, Record Holder	73	x	
115765	Switch Lever and Stop Nut Assy.	77		x
115767	Actuator Arm and Link Assy.	77		x
115769	Contact Plate Assy.	77		x
115770	Selector Crank and Bracket Assy.	77		x
115772	Sleeve and Bushing Assy., Selector Crank	77		x
115776	Shaft, Selector Crank Release	15		x
115782	Stud, Selector Mounting	15		x
115787	Rotating Plate	63		x
115788	Rocker, Long	13		x
115789	Stop Bracket, Selector	12		x
115796	Wobble Plate, Selector	63		x
115798	Adjusting Bracket, Hub and Stop Nut Assy.	63		x
115802	Centering Yoke, Hub and Pin Assy.	63		x
115806	Latch Pin, Selector, Inner	63		x
115807	Latch Pin, Selector, Outer	63		x
115812	Centering Shaft and Plate Assy.	12		x
115821	Spring, Centering Yoke	63		x
115822	Guide Plate, Centering Yoke	63		x
115823	Guide, Centering Yoke	63		x
115824	Stop, Centering Yoke	63		x
115825	Fall Support Assy.	67		x
115831	Spacer, Fall Support	67		x
115832	Spring and Clip Assy.	67		x
115856	Chassis Frame Casting and Plate Assy.	76		x
115862	Stop Arm and Rivet Assy.	12		x
115915	Mounting Casting Assy., Electric Selector	11	x	
115918	Contact Assy., Electric Selector	11		x
115973	Spring, Selector	63		x
115975	Solenoid, Driver	63		x
116023	Chassis Frame Casting and Plate Assy.	75	x	
116645	Power Transformer, 50-60 Cycle, Amplifier	78	x	x
116723	Slide Switch, Spring Return	61	x	x
116724	Slide Switch	78	x	x
116732	Tip and Mounting Bracket Assy., Outer	77		x
116733	Tip and Mounting Bracket Assy., Inner	77		x
116831	Stud, Eccentric, Lift Arm Guide	17	x	
116833	Roller, Lift Arm Guide	73	x	
116837	Bracket and Roller Assy., Lift Arm Guide	17	x	
116986	Gear and Ratchet Wheel Assy.	30	x	x

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117048	Pulse Relay, Stepper Assy.	67	x	x
117048-A	Contacts	67	x	x
117242	Bracket, Support Plate	14	x	
117243	Tapping Plate	14	x	
117252	Plate and Pin Assy.	75	x	
117254	Bumper, Record Guide	72	x	x
117692	Rocker, Short	13		x
117754	Speaker, 12", 8 ohm, P.M.	35	x	x
117794	Mounting Bracket Assy.	26	x	x
117823	Cap, 3 Circuit	26	x	x
117824	Socket, 3 Circuit	26	x	x
117986	Mounting Plate and Spring Stud Assy.	12		x
117987	Magnet and Frame Assy.	63		x
118182	Segment, Record Indicator Ring, N6-T5	73	x	
118183	Segment, Record Indicator Ring, H6-N5	73	x	
118184	Segment, Record Indicator Ring, C6-H5	73	x	
118185	Segment, Record Indicator Ring, C5-T6	73	x	
118199	Segment, Record Indicator Ring, D7-G1	74		x
118200	Segment, Record Indicator Ring, B1-J7	74		x
118201	Segment, Record Indicator Ring, B4-D8	74		x
118202	Segment, Record Indicator Ring, G4-J8	74		x
118254	Hub, Selector Drive Clutch.	76	x	x
118412	Lock and Key Assy.	85	x	x
118447	Timing Relay	67		x
118450	Transfer Relay	67		x
118551	Transfer Relay	66	x	
118553	Timing Relay	66	x	
118633	Key, RW95	85	x	x
118663	Selenium Rectifier	63		x
118936	Spacer, Record Indicator Ring	73	x	
119051	Oil Tube	69	x	x
119079	Thumb Screw	87	x	x
119080	Brush	29	x	x
119107	Coin Switch Assy., 5-10-25-50	4	x	x
119107-A	Long Paddle	58	x	x
119107-B	Short Paddle	4	x	x
119107-C	Long Shaft	58	x	x
119107-D	Long Spacer	58	x	x
119107-E	Iron Washer	58	x	x
119107-F	Copper Washer	58	x	x
119409	Cam, Clamp Lever	70	x	x
119412	Lever, Record Clamp	70	x	x
119413	Shaft, Turntable Pilot Clamp Levers	24	x	x
119414	Cup Washer, Turntable Spring	70	x	x
119420	Tube, Turntable Pilot	70	x	x
119423	Spring, Clamp	24	x	x
119424	Spring, Record Lever	70	x	x
119425	Spring, Turntable Cam	24	x	x
119426	Spring, Turntable Release Arm	25	x	x
119429	Cam, Record Clamp	24	x	x
119432	Cup Washer, Turntable Cam Lever	71	x	x
119433	Pivot Bracket	25	x	x
119439	Plate and Arms Assy.	70	x	x
119441	Turntable Release Arm Assy.	24	x	x
119442	Cam Lever Assy., Turntable Pilot	24	x	x
119443	Cam Lever and Roller Assy.	30	x	x
119445	Spacer, Pivot Bracket	71	x	x

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119498	Spring, Cam Lever	71	x	x
119574	Splice Plate, Record Carrier Ring	74		x
119584	Collar, Shaft, Tone Arm	71	x	x
119742	Worm, Turntable Drive Motor	26	x	x
119744	Gear and Shaft Assy., R.H., T.T. Drive Motor	26	x	x
119745	Gear and Shaft Assy., L.H., T.T. Drive Motor	26	x	x
119750	Pulley, 45 R.P.M., Red Dot	69	x	x
119751	Pulley, 33-1/3 R.P.M., Red Dot	69	x	x
119758	Mounting Bracket and Angle Assy.	26	x	x
119769	Support Bracket, Motor Mount	26	x	x
119770	Link	69	x	x
119779	Tip, Adjusting Screw, Turntable Motor	69	x	x
119784	Switch Assy., Lock Coil	25	x	x
119785	Switch, Toggle	15	x	x
119789	Shim	69	x	x
119790	Turntable Motor and Worm Assy.	69	x	x
119791	Turntable Motor and Worm Assy.	69	x	x
119793	Support Bracket and Spring Assy.	24	x	x
119824	"O" Ring	73	x	
119826	Solenoid Assy.	24	x	x
119832	Pulley, 45 R.P.M., Green Dot	26	x	x
119833	Pulley, 33-1/3 R.P.M., Green Dot	26	x	x
119842	Spring	26	x	x
119845	Switch Assy.	24	x	x
120435	Bracket and Stop Nut Assy.	68	x	x
120445	Bracket and Stop Nut Assy.	72	x	x
120451	Gimbal and Stop Nut Assy.	29	x	x
120452	Mounting Casting and Pin Assy.	68	x	x
120655	Release Lever and Hub Assy.	15	x	x
120689	Transformer, Low Voltage, 50-60 Cycle	78	x	x
120691	Transformer, Hi-Fi, Output	78	x	x
120692	Tip, Actuator, Red	78	x	x
120694	Relay, Override	33	x	x
120696	Rectifier and Mounting Bracket Assy.	78	x	x
120699	Control, Dual Volume, 500K	78	x	x
120706	Switch, Tone Control	78	x	x
120708	Switch, Cancel	80	x	x
120718	Lock Assy., Dome	85	x	x
120719	Cover, Motor	78	x	x
120777	Speaker, 12", P.M., 16 ohm	35	x	x
120799	Lever and Bracket Assy.	87	x	x
120862	Connecting Link, Volume Control	80	x	x
120863	Spring, Connector	80	x	x
120866	Gear	80	x	x
120871	Spring Retainer	80	x	x
120872	Mounting Bracket Assy.	80	x	x
120880	Motor and Pinion Assy.	80	x	
120959	Spring and Catch Assy.	2	x	x
120962	Mounting Bracket and Spacer Assy.	58	x	x
120964	Pin and Actuator Assy.	87	x	x
120984	Switch, Remote Loudness Control	80	x	x
120985	Case, Control	80	x	x
120987	Cover, Case	80	x	x
120988	Push Button	80	x	x
120989	Knob	80	x	x
120998	Spring, Clutch	80	x	x
121006	Motor, Mounting Bracket and Wire Assy.	80	x	

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121008	Control Case Assy., Complete	80	x	x
121059	Bracket and Stop Nut Assy.	26	x	x
121095	Solenoid	26	x	x
121095-A	Plunger, Solenoid	7	x	x
121229	Trip Switch	29	x	x
121235	Terminal Board and Lug Assy.	80	x	x
121240	Pin, Solenoid Shaft	69	x	x
121249	Bracket and Stop Nut Assy., Trip Switch	68	x	x
121291	Choke Coil, 150 uh	80	x	x
121301	Switch	78	x	x
121313	Adjustment Disc	27	x	x
121319	Plug and Wire Assy.	63	x	x
121337	Adjusting Nut	70	x	x
121338	Adjusting Plate	24	x	x
121352	Light Socket and Wire Assy.	61	x	x
121559	Standard Record Disc	19	x	x
121584	Plug, 11	66	x	x
121690	Adjusting Bracket, Trip Switch	29	x	x
121759	Socket, Miniature, 9 Pin	78	x	x
121763	Contact, Lamp Socket	71	x	x
121809	Fuse Post	65	x	x
121838	Socket and Paint Assy.	78	x	x
121884	Chassis Mounting Plate, Sub Assy.	73	x	x
121893	Mounting Bracket, Record Indicator Panel	73	x	x
121894	Record Indicator Panel	73	x	x
121901	Selector Button	61	x	x
121909	Transfer Switch and Bracket Assy.	76	x	x
121911	Support Casting and Bushing Assy.	68	x	x
121923	Selector Shaft Assy.	77		x
121924	Arm and Rivet Assy.	76		x
121931	Select Blank and Silk Screen Assy.	61	x	x
121933	Switch, Top Tunes	79	x	x
121940	Tone Arm and Wire Assy.	35	x	x
121941	Tone Arm, Sub Assy.	68	x	x
121944	Cartridge, Stereo	68	x	x
121949	Brush Holder	68	x	x
121950	Arm, Tone Arm Brush	68	x	x
121954	Speed Clip	61	x	x
121955	Window Blank, Coin Denomination, Clear	79	x	x
121956	Window Blank, Coin Denomination	79	x	x
121957	Extrusion, Clamp	61	x	
121959	Extrusion, Clamp	61	x	x
121965	Felt	68	x	x
121968	Classification Slip, Hit Tunes	83	x	x
121969	Classification Slip, Rhythm and Blues	83	x	x
121970	Classification Slip, Polkas and Waltzes	83	x	x
121971	Classification Slip, Jazz and Novelty	83	x	x
121972	Classification Slip, Stereo Albums	83	x	x
121973	Classification Slip, Old Favorites	83	x	x
121974	Classification Slip, Classical	83	x	x
121975	Classification Slip, Country and Western	83	x	x
121976	Classification Slip, Music of the Week	83	x	x
121977	Classification Strip, Little LP	83	x	x
121982	Mounting Bracket, Motor	73	x	x
121983	Program Holder, Vee	83	x	x
121984	Program Holder, Side	83	x	x
121985	Extrusion and Paint Assy., AI-C0	83	x	

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121986	Extrusion and Paint Assy., B1-G0	83	x	
121987	Extrusion and Paint Assy., F1-L0	83	x	
121988	Extrusion and Paint Assy., K1-Q0	83	x	
121989	Extrusion and Paint Assy., P1-U0	83	x	
121990	Extrusion and Paint Assy., T1-V0	83	x	
121998	Motor and Pinion Assy.	73	x	
122006	Slide Catch, Programs	83	x	x
122009	Shoulder Rivet, Program Frame	83	x	x
122045	Clip, Plastic Retaining	79	x	x
122049	Light Shield and Clip Assy.	61	x	x
122050	Eccentric Washer, Turntable Motor (G.I.)	69	x	x
122060	Window Casting and Latch Plate Assy.	61	x	x
122067	Spacer, Record Indicator Ring	74		x
122071	Record Holder Assy.	74		x
122074	Carrier Ring and Silk Screen Assy., A1-C6	74		x
122075	Carrier Ring and Silk Screen Assy., F1-H6	74		x
122076	Carrier Ring and Silk Screen Assy., C7-E0	74		x
122077	Carrier Ring and Silk Screen Assy., H7-K0	74		x
122080	Casting, Record Holder	74		x
122081	Plate, Record Holder	20		x
122082	Clip, Spring	74		x
122083	"O" Ring, Record Separators	74		x
122084	Back Stop Pawl Assy.	20		x
122088	Bracket and Roller Assy.	74		x
122093	Pivot Casting and Arm Assy.	76		x
122094	Record Actuator Arm and Shaft Assy., L.H.	76		x
122095	Record Actuator Arm and Shaft Assy., R.H.	76		x
122101	Actuator and Pin Assy., L.H.	87	x	x
122102	Actuator and Pin Assy., R.H.	87	x	x
122107	Frame, Cash Box Door	85	x	x
122109	Coin Box Door	85	x	x
122113	Pilot, Turntable	70	x	x
122114	Spring, Turntable Pilot	24	x	x
122115	Spring Cup	70	x	x
122131	Socket, Relay	63	x	x
122132	Retaining Spring	63	x	x
122133	Relay, 24V., D.C., White	34	x	x
122285	Link, Switch Actuator	61	x	x
122288	Pivot Pin, Switch Interlock	61	x	x
122290	Link, Switch Interlock	61	x	x
122293	Spacer, Selector Switch	61	x	x
122296	Caster	87	x	x
122322	Lock Assy., Back Door	87	x	x
122344	Pulley, 33-1/3 R.P.M., Yellow Dot	69	x	x
122345	Pulley, 45 R.P.M., Yellow Dot	69	x	x
122346	Pulley, 33-1/3 R.P.M., Blue Dot	69	x	x
122347	Pulley, 45 R.P.M., Blue Dot	69	x	x
122358	Lamp Socket	65	x	
122359	Lamp, No. 303, 28V., .30 amp	65	x	
122366	Relay, 24 V.A.C., Red	65	x	x
122372	Plate and Spacer Assy.	63		x
122383	Spring, Switch Interlock Assy.	61	x	x
122399	Hinge Bracket, Amplifier	78	x	x
122400	Mounting Bracket, Lock Screw	78	x	x
122401	Lock Screw, Amplifier	78	x	x
122411	Fluorescent Lamp, 25W., 28"	87	x	x
122413	Return Spring, Reject Rod	87	x	x

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122424	Spring, Display Sign	82	x	x
122427	Spring, Program Holder	83	x	x
122428	Extrusion and Paint Assy., A1-A0	83		x
122429	Extrusion and Paint Assy., B1-C0	83		x
122430	Extrusion and Paint Assy., D1-E0	83		x
122431	Extrusion and Paint Assy., F1-G0	83		x
122432	Extrusion and Paint Assy., H1-J0	83		x
122433	Extrusion and Paint Assy., K1-K0	83		x
122436	Casting, Record Guide, Rear	72	x	x
122452	Mounting Bracket and Latch Assy., L.H.	87	x	x
122454	Spring	87	x	x
122487	Clamp, Program Dividers	83		x
122488	Divider, Program Holder	83		x
122489	Divider, Program Holder, Center	83		x
122500	"O" Ring, T.T. Drive, 33-1/3	69	x	x
122501	"O" Ring, T.T. Drive, 45	69	x	x
122536	Window Casting and Latch Plate Assy., Top Tunes	61	x	x
122562	Mounting Plate and Spring Catch Assy.	87	x	x
122564	Pickup Cable and Plug Assy., Tone Arm	68	x	x
122630	Thrust Washer, Selector Crank Arms	77	x	x
122631	Ball Race	77	x	x
122649	Cap, 4 Circuit	87	x	x
122650	Socket, 4 Circuit	87	x	x
122667	Light Diffuser, Selector Switches	61	x	x
122668	Needle, Dual .7 Mil, Sapphire	27	x	x
122669	Mounting Plate and Light Diffuser Assy.	61	x	
122670	Mounting Plate and Light Diffuser Assy.	61		x
122681	Motor and Pinion Assy.	74		x
122716	Stud	26	x	x
122717	Mounting Bracket	69	x	x
122723	Pivot Pin	69	x	x
122724	Hinge Pin	69	x	x
122725	Selector Lever and Yoke Assy.	69	x	x
122729	Extrusion and Pad Assy.	61	x	x
122730	Extrusion and Pad Assy.	61	x	
122732	Mounting Channel and Bushing Assy.	26	x	x
122735	Mounting Plate and Rivet Assy.	26	x	x
122743	Socket, Fluorescent Lamp	87	x	x
122779	Turntable and Shaft Assy.	24	x	x
122808	Adjustment Fixture, Turntable Motor Gears	26	x	x
122822	Stud	30	x	x
122827	Bracket, Turntable Motor (Alliance)	69	x	x
122834	Angle and Guard Assy., Coin Switch	58	x	x
122840	Stop Bracket, Track	19	x	x
122849	Gasket	61		x
122850	Gasket	61	x	
122862	Felt Washer	69	x	x
122867	Extrusion, Vinyl Gasket	83		x
122944	Spacer	87	x	x
123019	Cover, Lower Coin Chute	87	x	x
123106	Thumb Screw	87	x	x
123329	Transfer Switch and Bracket Assy.	22	x	x
123329-A	Spring, Transfer Switch	22	x	x
123329-B	Washer, Transfer or Mute and Play Switch	75	x	x
123336	Mute and Play Switch and Bracket Assy.	22	x	x
123336-A	Spring, Mute and Play Switch	22	x	x
123342	Idler Pulley and Bracket Assy.	29	x	x

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123382	Coin Register Mechanism	2	x	x
123384	Amplifier, Model 545, Less Tubes	35	x	x
123440	Casting, Door Frame, L.H.	85	x	x
123441	Casting, Door Frame, R.H.	85	x	x
123442	Casting, Upper Side, L.H.	85	x	x
123443	Casting, Upper Side, R.H.	85	x	x
123446	"V" Casting	85	x	x
123447	Casting, Door Frame	85	x	x
123448	Casting, Top, Door Frame	87	x	x
123449	Casting, L.H. Side	85	x	x
123450	Casting, R.H. Side	85	x	x
123451	Moulding, Front, L.H.	85	x	x
123452	Moulding, Front, R.H.	85	x	x
123453	Extrusion, L.H., Back Rub Rail	85	x	x
123454	Extrusion, R.H., Back Rub Rail	85	x	x
123455	Extrusion, Grille, L.H.	85	x	x
123456	Extrusion, Grille, R.H.	85	x	x
123457	Extrusion, Frame	85	x	x
123459	Extrusion, Center Grille	85	x	x
123460	Extrusion, L.H.	85	x	x
123461	Extrusion, R.H.	85	x	x
123462	Extrusion, Front Door	85	x	x
123463	Glass, Door	85	x	
123464	Glass, Door	85		x
123465	Light Shield, Baffle Board	87	x	x
123466	Side Plate, L.H., Grille	85	x	x
123467	Side Plate, R.H., Grille	85	x	x
123468	Moulding, Lower, R.H.	85	x	x
123469	Moulding, Lower, L.H.	85	x	x
123470	Kick Plate, Front	85	x	x
123472	Mounting Rail and Bracket Assy., Chassis Mounting, L.H.	87	x	x
123473	Mounting Rail and Bracket Assy., Chassis Mounting, R.H.	87	x	x
123482	Coin Bag Housing Assy.	87	x	x
123483	Back Plate and Guide Assy., Amplifier	87	x	x
123485	Guide Plate Assy.	87	x	x
123491	Cross Rail and Silk Screen Assy.	87	x	x
123492	Grille Screen	85	x	x
123494	Upper Glass, Canopy	85	x	x
123497	Program Holder Frame Assy.	83	x	x
123498	Light Shield, Program Holder	83	x	x
123499	Light Shield, Lower, Program Holder	83	x	x
123500	Hinge Bracket, Programs, L.H.	83	x	x
123501	Hinge Bracket, Programs, R.H.	83	x	x
123513	Fall Support Assy., L.H.	87	x	x
123514	Fall Support Assy., R.H.	87	x	x
123520	Spring, Latch, Fall Support	87	x	x
123525	Locking Lever and Strike Assy., L.H.	87	x	x
123526	Locking Lever and Strike Assy., R.H.	87	x	x
123538	Reject Rod Assy.	87	x	x
123539	Mounting Bracket, Reject Rod Pivot	87	x	x
123540	Pivot Bracket, Reject Rod	87	x	x
123541	Coin Entry Chute Assy.	87	x	x
123548	Mounting Bracket and Coin Chute Assy., Lower	87	x	x
123552	Back Rail Assy.	87	x	x
123556	Mounting Bracket, Selector Casting, L.H.	61	x	x
123557	Mounting Bracket, Selector Casting, R.H.	61	x	x
123558	Light Shield, Record Indicator Panel	73	x	x

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123601	Cable Retainer	87	x	x
123618	Socket, 5 Prong	59	x	x
123619	Plug, 5 Prong, Miniature	58	x	x
123628	Cancel Wheel and Mounting Plate Assy.	5	x	x
123634	Shaft, Lockout Levers	59	x	x
123635	Pivot Pin, Pawl	59	x	x
123637	Pivot Arm and Cancel Pawl Assy.	6	x	x
123641	Coin Magnet and Bracket Assy.	5	x	x
123643	Lever, Hub and Stud Assy.	5	x	x
123647	Spacer, Latch Lever	59	x	x
123648	Hub and Lever Assy., Lockout	6	x	x
123650	Accumulator Wheel and Hub Assy.	5	x	x
123657	Indexing Strip and Silk Screen Assy., 50 Cents	6	x	x
123658	Indexing Strip and Silk Screen Assy., 25 Cents	6	x	x
123659	Indexing Strip and Silk Screen Assy., 10 Cents	6	x	x
123660	Back Plate, Coin Mechanism	59	x	x
123663	Bracket, Pivot	58	x	x
123664	Wire and Plug Assy.	2	x	x
123665	Upper Back and Screw Assy.	87	x	x
123667	Lower Back Door Assy.	87	x	x
123704	Hinge, Door	87	x	x
123707	Mounting Bracket and Latch Assy., R.H.	87	x	x
123708-A	Di-Noc, Side	85	x	x
123713	Bracket and Stop Nut Assy., L.H.	82	x	x
123714	Bracket and Stop Nut Assy., R.H.	82	x	x
123715	Slide Switch	63	x	x
123726	Decorative Panel and Mounting Plate Assy., L.H.	85	x	x
123727	Decorative Panel and Mounting Plate Assy., R.H.	85	x	x
123744	Grille Plate and Hinge Assy.	85	x	x
123745	Album Holder, Blank	81	x	x
123746	Light Diffuser and Paint Assy.	85	x	x
123755	Decorative Glass, Canopy	85	x	x
123763	Slide, Catch, Display Door.	81	x	x
123766	Letter and Silk Screen Assy., A-E	61	x	x
123767	Letter and Silk Screen Assy., F-K	61	x	x
123768	Letter and Silk Screen Assy., L-Q	61	x	
123769	Letter and Silk Screen Assy., R-V	61	x	
123770	Number and Silk Screen Assy., 1-5	61	x	x
123771	Number and Silk Screen Assy., 6-0	61	x	x
123774	Spring, Fall Support	87	x	x
123779	Display Sign Assy.	82	x	x
123785	Light Reflector, R.H.	68	x	x
123786	Light Reflector, L.H.	68	x	x
123795-S to 123799-S	Insert, Program Holder, Top Tune "9, 8, 7, 6, 5"	83	x	x
123817	Glass, Front "Stereo By Wurlitzer"	85	x	x
123825	Display Door and Spring Assy.	81	x	x
123826	Window and Spring Clip Assy.	81	x	x
123829	Guide Assy., Fall Support, R.H.	87	x	x
123830	Guide Assy., Fall Support, L.H.	87	x	x
123832	Selector Plate and Spacer Assy.	64	x	
123855	Printed Board Assy.	78	x	x
123859	Guide Bracket	78	x	x
123895	Display Sign, Upper	82	x	x
123896	Display Sign, Center	82	x	x
123898	Display Sign, Center	82	x	x
123899	Display Sign, Center	82	x	x

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123900	Display Sign, Lower	82	x	x
123901	Filler Strip, Blank (Chrome)	81	x	x
123907	Instruction Plate and Silk Screen Assy.	81	x	x
123911	Insert, Program Holder "Stars"	83	x	x
123913	Insert, Program Holder, Top Tune	83	x	x
123914	Instruction Plate and Silk Screen Assy.	81		x
123915	Insert, Program Holder, Album	83	x	x
123916	Instruction Plate and Silk Screen Assy.	81		x
123942	Casting, Record Guide, Front	23	x	x
123943	Plate, Record Guide	23	x	x
123944	Plastic Bearing	24	x	x
123945	Decorative Background and Clip Assy.	29	x	x
123950	Ballast, 25W., 110/60 Cycle	87	x	x
123967	Potentiometer, Balance Control	78	x	x
123972	Slotted Screw Fastener, No. 2	87	x	x
123973	Spring, Back Door	87	x	x
123974	Filler Strip and Silk Screen Assy., Album (J1-J10)	81	x	
123975	Filler Strip and Silk Screen Assy., Album (E1-E0)	81		x
123976	Instruction Plate and Silk Screen Assy.	81	x	x
123980	Heat Shield	87	x	x
123985	Coin Denomination Label, Standard	3	x	x
123986	Coin Denomination Label, Top Tunes	3	x	x
123987	Lock Screw	61	x	x
123990	Plug and Wire Assy., Top Tunes	65	x	x
123994	Glass and Silk Screen Assy.	81	x	x
123997	Instruction Plate and Silk Screen Assy.	81	x	
124002	Switch, Release	34	x	x
124014	Switch, Counter	34	x	x
124015	Switch, Full Cycle	34	x	x
124016	Link	79	x	x
124026	Gear and Shaft Assy.	34	x	x
124031	Actuator, Lower, Latch Pin Selector	34	x	
124039	Spring, Selector Switch Latch Bar	7	x	x
124049	Actuator, Latch Pin, Lower	34		x
124056	Switch, Anti-Cheat	61	x	x
124058	Roller, Selector Pin	61	x	x
124062	Cam and Hub Assy., Pre-Set	7	x	x
124063	Cam and Hub Assy., Latch	7	x	x
124065	Link and Pin Assy., Selector Switch	7	x	x
124070	Button and Pivot Bracket Assy.	79	x	x
124072	Mounting Plate and Slide Assy.	79	x	
124073	Actuator and Pin Assy.	34	x	
124074	Actuator and Pin Assy.	34	x	
124075	Actuator and Pin Assy. (4)	79	x	
124076	Actuator and Pin Assy. (3)	79	x	
124077	Actuator and Pin Assy. (2)	79	x	
124078	Actuator and Pin Assy. (1)	79	x	
124084	Trip Lever and Bearing Assy.	79	x	
124086	Spring	79	x	x
124096	Mounting Plate and Slide Assy.	79		x
124097	Actuator and Pin Assy.	34		x
124098	Actuator and Pin Assy.	34		x
124099	Actuator and Pin Assy. (4)	79		x
124100	Actuator and Pin Assy. (3)	79		x
124101	Actuator and Pin Assy. (2)	79		x
124102	Actuator and Pin Assy. (1)	79		x
124108	Trip Lever and Bearing Assy.	79		x

Part No.	Description	Page No.	2800	2810
124116	Mounting Plate and Bushing Assy.	77		x
124119	Mounting Plate and Bushing Assy.	77	x	
124121	Speaker, 6", 8 ohm, P.M.	35	x	x
124122	Lever and Pin Assy., Left Hand	8	x	x
124123	Lever and Pin Assy., Right Hand	8	x	x
124125	Selector Casting and Nut Assy.	61	x	
124126	Mounting Bracket, Selector Casting	61	x	x
124127	Selector Switch, Letters	8	x	
124128	Selector Switch, Letters	8		x
124129	Selector Switch, Numbers	8	x	
124130	Selector Switch, Numbers	8		x
124131	Switch and Wire Assy., Letters	61	x	
124132	Switch and Wire Assy., Numbers	61	x	
124141	Switch Assy., Control	7	x	x
124150	Selector Casting and Nut Assy.	61		x
124151	Switch and Wire Assy., Letters	61		x
124152	Switch and Wire Assy., Numbers	61		x
124164	Torsion Spring, R.H.	82	x	x
124170	Slide and Spring Assy.	34	x	
124171	Slide and Spring Assy.	34		x
124185	Stop Bracket, Lock Screw	78	x	x
124187	Retainer and Silk Screen Assy.	83	x	
124189	Actuator Arm Assy.	22	x	x
124208	Retaining Washer, No. 2	87	x	x
124214	Bracket and Speed Nut Assy.	87	x	x
124223	Mounting Plate, Slug Rejector	87	x	x
124236	Filler Strip	81	x	x
124239 to	Insert, Program Holder, Album Music, "8, 6, 4"	83	x	x
124241				
124245	Gear, Pinion and Bracket Assy.	79	x	x
124246	Motor and Worm Assy.	34	x	x
124263	Cover, Program Slip	83	x	x
124279	Plug and Wire Assy., Special Programmer	65	x	x
124294	Retainer, Program	83		x
124314	Anti-Cheat Guard and Bracket Assy.	87	x	x
124322	Reject Button	85	x	x
124333	Display Sign, Center	82	x	x
124334	Display Sign, Lower	82	x	x
124335	Instruction Plate and Silk Screen Assy.	81	x	x
124338	Bushing, Selector Switch	61	x	x
124342	Torsion Spring, L.H.	82	x	x
124344	Cover, Albums (Clear Vinyl)	81	x	x
124354	Filler Strip Blank, Pressure Sensitive (Chrome)	81	x	x
124361	Mounting Bracket and Spring Assy., L.H.	87	x	x
124362	Mounting Bracket and Spring Assy., R.H.	87	x	x
124365	Retainer	87	x	x
124440	Switch Assy., Coin Mechanism	59	x	x
124442	Coin Denomination Label, 5 Cent Play	3	x	x
124618	Decorative Plate and Silk Screen Assy., (White Stars)	81	x	x
124669	Guard, Coin Bag.	87	x	x
124780	Card Holder, Clear	81	x	x

TROUBLE SHOOTING CHART**POWER AND LIGHT FAILURE**

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
1. No power to phonograph.	Fluorescent lamps fail to light Phonograph fails to operate.	(a) Line cord plug not making contact in outlet.	Repair or replace plug or outlet.
		(b) Line cord broken.	Repair or replace cord.
		(c) 15 amp. main fuse blown.	Check for shorts in phonograph wiring. Replace fuse.
		(d) "House" fuse blown.	Check for overload. Replace fuse.
		(e) Main switch off.	Turn main switch on.
		(f) Main switch broken.	Replace main switch in amplifier.
2. Fluorescent lamp fails to light.	Phonograph operates normally. No fluorescent lights available for program and cabinet.	(a) Defective lamp.	Replace lamp.
		(b) Defective starter.	Replace starter.
		(c) Faulty ballast.	Replace ballast.
		(d) Open circuit in lamp or ballast wiring.	Trace and repair. See Wiring Diagram for 2800 or 2810.
		(e) Lamp loose in socket.	Seat lamp firmly in socket.
		(f) Line plug out of amp. socket.	Insert plug.
3. Fluorescent lamps light. Select lamp fails to light.	Phonograph operates normally.	(a) Lamp burned out.	Replace with No. 44 Mazda Lamp.
		(b) 150 ohm resistor open on selector switch assembly.	Replace resistor. See Schematic Pages 43 or 51.
		(c) Open circuit to select lamp.	Trace and repair. See Schematic Wiring Diagram 123859 or 123871.
	Phonograph fails to select or operate.	(a) Safety switch open.	Adjust safety switch. See Page 23.
		(b) Warped record jammed between record carrier and record guide casting.	Remove Warped record.
4. Select lamp lights, Phonograph fails to operate.	Phonograph selection circuit operates. Mechanism fails to operate.	(a) Record loading switch turned off or fails to operate.	Turn on record loading switch. See Page 16 (Record Loading Lever)
		(b) Service switch turned off.	Turn service switch on.
		(c) Defective service switch.	Replace switch.

COIN AND CREDIT FAILURE

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
1. Rejects coins.	Coins are returned or hang up in rejector.	(a) Bind in scavenger rod holding reject gate open.	Remove bind in scavenger rod linkage.
		(b) Incorrect adjustment in rejector.	Adjust rejectors in accordance to National Rejectors bulletin for No. 1-22-000-NDQH Rejector
		(c) Lower coin chute not properly seated.	See Fig. 1, Page 2 for normal operating position.

COIN AND CREDIT FAILURE CONT'D.

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
2. Quarter and dime coins drop through to cash bag. No credits. Nickels establish credits.	Quarters and dimes fail to establish credits.	(a) 8/10 amp. fuse blown in playrak. 25¢ and/or 10¢ coins hang on coin paddles.	Adjust coin switches. See Page 4 Replace fuse.
		(b) Open or burnt coin magnet coils.	Replace coin magnet coils in playrak. See Page 5, Fig. 5
		(c) Incorrect alignment of rejector and coin switch levers.	Seat rejector fully into mounting frame.
		(d) Dirty or incorrectly adjusted key switch.	Clean and adjust key switch as shown on Page 5.
		(e) Excessive spring pressure or poor contact on coin switches.	Clean and adjust coin switches.
		(f) Open series circuit. Letter or number selector switches or open contact 1 & 2 of pre-set solenoid	Check for bind in selector switches. Clean and adjust contacts-Pre-set solenoid.
	Half dollars fail to establish credits	(a) Jumper Plug missing from Junction Box - Top Tunes socket.	Replace plug.
		(b) Open contact 3 and 11 on RY-12 Open series circuit, letter or number Selector switches. Open contacts 1 and 2 at Pre-Set Solenoid	Clean and adjust contacts.
	Half dollars register. Customer gets only one selection from Keyboard.	(a) Dirty contacts #6 and #10 on RY-11.	Clean and adjust contacts.
		(b) Open contacts No. 1 switch-Golden Bar.	
		(c) Dirty contacts #4 and #12 on RY-3. 2&10 RY-12 (6 & 10 RY-2 2810)	
		(d) Dirty contacts #1 and #2 - Latch switches	
3. All coins drop through to cash bag. No credits. "Select" light fails to come on.	All coins fail to establish credits.	(a) Coin switch plug not seated in slug rejector socket.	Seat plug firmly in socket.
		(b) Open ground connection at coin switch assembly.	Check common circuit feeding all coin switches. See Wiring Diagrams Pages 43 or 51.
		(c) Open circuit or faulty solder connection in coin mechanism.	Check wiring and connections. See Wiring Diagram Page 43 or 51.
		(d) 5 ampere fuse blown in D.C. circuit	Check for short circuit. Check fuses for right size.
		(e) Open contact #1 and #9(N.C.) on RY-4 (RY-2 2810) or #3 and #11 on RY-12.	Clean and adjust contacts.
		(f) Coin chutes plugged.	Clean Coin tracks
		(g) No power on phonograph	Connect power
4. Free credits on nickel deposit only.	Continuous free credits on nickels	(a) Nickel coins hang on coin switch.	Adjust and check coin switch as shown on Page 4

MECHANICAL AND ELECTRICAL FAILURES CONT'D.

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
Continued	Dimes, quarters and half dollars establish correct credits.	(b) Nickel coins hang at bottom of rejector, holds coin switch closed.	Check coin exits of rejector with coins. Remove burrs or obstruction causing coins to hang.
		(c) Nickel coin switch incorrectly adjusted - contacts stay closed.	Adjust and check contact clearance and pressure as shown on Page 4.
5. Occasional extra credits on quarter and half dollar coins.	More than normal number of credits for coin deposited.	(a) Cancel pawl occasionally fails to engage next ratchet tooth of cancel wheel.	Adjust cancel solenoid position and pawl adjusting cam for correct pawl stroke as shown on Pages 6 & 7.
		(b) Accumulator wheels bounce when cancel coil operates.	Same as above. See Pages 6 and 7.
		(c) Key switch occasionally fails to open.	Adjust key switch. See Page 5
		(d) Burrs on rest position of accumulator ratchets.	Remove any burrs at first tooth on accumulator ratchets.

SELECTION CIRCUIT

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
1. Selector buttons lock in, fail to release. Select light on.	Selection circuit and mechanism fails to operate, Buttons lock in.	(a) Defective No. 303 lamp in bottom of junction box on 2800	Replace No. 303 lamp
		(b) Latch switches No. 3 & 4 fail to close. (1 & 2 on 2810)	Clean and adjust latch switch See Page 9.
		(c) Start switch fails to make contact.	Check start switch adjustment. See Page 10.
		(d) Open contacts, phonograph hold-out circuit. No. 3 and 4, 9 and 10 on latch relay of 261 or 259A Stepper. See Page 38 for relay contact numbering.	Clean and adjust contacts. May also be short on wall box line holding relays energized.
		(e) Jumper plug out.	Jumper plug must be in Stepper Socket No. 4 on junction box when stepper is not used.
		(f) Number 3 Selector Switch plug loose in socket.	Seat plug fully into socket.
		(g) Letter coil plunger caught between rocker arms.	See instructions on adjustment of start switch and rotating plate on Pages 9 or 10.
2. Selector buttons fail to latch in.	Select light on. Pre-set solenoid fails to energize.	(a) N. C. control contacts of pre-set solenoid dirty or fail to make.	Clean and adjust N. C. control contacts as shown on Page 9.
		(b) Open circuit to pre-set solenoid coil.	Check wiring. See Wiring Diagram Page 43 or 51.
	No select light. pre-set solenoid fails to energize.	(a) RY-1 relay fails to energize. Relay coil open.	Check RY-1 relay coil in Junction Box.
		(b) N.C. contacts 1 and 9 on RY-4 open. (RY-2, 2810)	Clean and adjust N.C. 1 and 9 contacts.
		(c) Contacts 7 and 11 on RY-1 relay dirty. (1 and 9, 2810)	Clean and adjust RY-1 contacts on Junction Box.

SELECTION CIRCUIT CONT'D.

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
3. Select light on. Electric selector operates.	Selector pins fail to release.	(a) 8/10 amp. fuse/tron blown in letter coil circuit.	Check for grounded letter coil. Replace fuse.
		(b) Dirty contacts 7 and 11 on RY-4 relay	Clean and adjust contacts.
		(c) Dirty contacts 3 and 11 on RY-1 or 7 & 11 on RY-4 or open circuit in number or letter selector switch-2810	Clean and adjust relay contacts. See Page 38 for relay contact numbering. Refer to Wiring Diagram Page 53.
	Selector pins released. Changer motor, turntable motor and amplifier fail to turn on.	(a) Bind on wobble ring or override switches not making contact or open at #2 and #3 contacts of transfer switch.	Check wobble plate for freedom of action. Check override switches. See Page 11.
4. Plays extra records when a certain selection is made.	Two or more selector pins release when one selection is made.	(a) Selector coil selected shorted to adjacent coil or coils.	Check for shorts and repair.
		(b) Short between selection circuits in selector button switches, cables or plugs and sockets.	Check for shorts and repair. Refer to Wiring Diagram Pages 43 or 51.
		(c) Selector crank kick-off screw not properly adjusted.	See Page 21 for correct adjustment.

MECHANICAL AND ELECTRICAL FAILURES

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
1. Selects, but fails to start mechanism.	Selector pins release. Mechanism fails to start.	(a) Open record loading switch located at front of changer mechanism.	Replace switch. See Page 16 and Fig. 30.
		(b) Open service switch located on junction box.	Replace switch located in junction box.
		(c) Changer motor trouble.	Check motor circuit for open circuit. Replace motor if defective.
2. Plays wrong selections.	Occasionally repeats same selection.	(a) Not cancelling selector pin.	See instructions for proper adjustment. See Pages 16, 19 and 20.
		(b) Improper adjustment of carriage switch or stop screw.	
		(c) Selector pin assembly not properly centered.	See Pages 13 and 14.
		(d) Carriage switch circuit shorted.	Check contact plate and wipers for shorts. Located at lower end of main selector shaft.
	Gives wrong selections.	(a) 2810 driver solenoid linkage loose or disconnected.	Repair and readjust driver linkage and rocker plate. See Page 12.
		(b) 2810 shorted Selenium Rectifier.	Replace Rectifier
		(c) 2800 Number stop coil burned or jammed.	Repair or replace number stop coil.

MECHANICAL AND ELECTRICAL FAILURES CONT'D.

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
		(d) Rocker arm jammed between selector pins.	See Pages 9 and 12 for adjustment of rocker plate and Page 10 for start switch adjustment.
		(e) Letter coil plunger jammed between rocker arms.	See Pages 9 and 12 for adjustment of rocker plate and Page 10 for start switch adjustment.
		(f) Transfer switch fails to actuate to rest position. Switch not properly adjusted or faulty switch.	Transfer switch not properly adjusted. Adjust or replace switch. See Page 21
3. Fails to bring up record.	Main cam motor turns in reverse direction but does not drive main cam.	(a) Drive pawl spring weak or broken. Strap and spring assembly lacks tension to engage drive pawl.	Turn mechanism manually until hole in main gear is over drive pawl mounting screw. Remove nut and screw and replace drive pawl. Strap and spring assembly may be adjusted or replaced at this time.
4. Repeats same selection occasionally.	Selector crank jammed against cancelled selector pin.	(a) Wrong holding pawl engaged tooth on record carrier casting.	Check adjustment of actuating screw and stop screw. See Pages 19 and 20
		(b) Cancelled selector pin fails to latch.	Check selector pin cancelling adjustment. Page 16
5. Some records fail to play.	Record fails to clamp on turntable.	(a) Record hole off center.	Remove bad record.
		(b) Record Guide spacing incorrect.	See Page 23 for turntable adjustments.
		(c) Record guide track stop brackets not properly adjusted.	See instructions for adjustment on Page 19
		(d) Record lift arm up position not properly adjusted.	See instructions for adjustments on Page 17
		(e) Record clamp fingers fail to engage records.	Bind on T.T. pilot. Bind on Clamp shaft. Check clamping adjustments Page 23. Lubricate and check for binds.
6. Turntable turns, no music.	Tone arm misses record	(a) Undersize record.	Remove undersize record.
		(b) Tone arm feed-in start position not properly adjusted.	Adjust tone arm start position See Page 27.
		(c) No record in carrier selected space.	Place record in empty space. Check record lift arms for freedom of action. See Pages 16, 17 and 18. Check back stop pawl setting. See Page 19. Check record pilot hole for undersize. Too tight on turntable pilot. Ream record if necessary.
7. Turntable fails to run.	Amplifier dead.	(a) Open contact 4 & 5 on override relay, RY-5 located in Amp.	Clean and check contacts for proper action.
	Amplifier on.	(a) Loose drive pulleys.	Tighten Allen set screw in pulleys.
		(b) Defective turntable motor.	Repair or replace motor.
		(c) Turntable belt broken ("O" ring.)	Replace "O" Ring.

MECHANICAL AND ELECTRICAL FAILURES CONT'D.

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
		(d) Motor leads disconnected at disconnect plug.	Seat motor plug firmly into socket.
8. Record fails to cancel	Record fails to return to carrier after playing.	(a) Trip switch not operating.	Adjust trip switch. Page 28.
		(b) Defective trip switch.	Replace defective switch.
		(c) Open contact 4 & 5 in play switch.	Clean and adjust contacts. See Page 22.
		(d) Open changer motor circuit	See Wiring Diagram Pages 47 or 53.
9. Record comes up. Returns without playing.	Puts record back without playing.	(a) Shorted trip switch.	Repair or replace shorted components.
		(b) Shorted reject button.	
		(c) Shorted remote control cancel circuit	
10. Throws records.	Throws records.	(a) Bind in record lift arm guide rollers.	Adjust guide rollers. See Pages 16 and 17
		(b) Guide tips on record lift arms not properly aligned.	Straighten guide tips. See Page 17.
		(c) Bent record separators.	Straighten record separators.
		(d) Carrier not properly indexed.	See Page 19 for back stop pawl adjustment.
11. One side of record okay. The other side distorted tone.	One side of record turns at correct speed. The other side does not.	(a) Record track stop brackets not adjusted properly, causing record to drag.	Adjust record track stop bracket. See Page 19.
		(b) Record lift arm coming up too high.	Adjust record lift arm height. See Page 17
12. Music skips.	Tone arm jumps one or two grooves, giving a thumping sound while record is playing.	(a) Worn needle.	Replace needle or turn over other tip.
		(b) Too much end play in turntable shaft.	Shim between turntable pulley and bushing. See Page 32.
		(c) Tone arm not balanced properly.	Check tone arm balance. See Page 28.
		(d) Tracking pressure of tone arm too light	Check tone arm needle pressure. See Page 28.
13. Excessive record wear.	Record wear faster than normal.	(a) Worn or chipped needle.	Replace needle. Replace worn record.
		(b) Bind in tone arm.	Examine Gimbal bearings for binds and adjust for freedom of action.
		(c) Incorrect needle pressure.	Adjust to 5 to 7 grams pressure. See Page 28.
		(d) Poor material in records.	Replace worn records. Check needle wear.

COIN AND CREDIT FAILURE CONT'D.

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
14. Excessive lint accumulation on needle.	Needle skips, sound distorted.	(a) Excessive lint and dust on the stylus	Remove lint from needle and brush with small brush. Spray needle, cartridge and brush with Anti-Static Cleaner.
		(b) Tone arm brush incorrectly adjusted.	Adjust tone arm needle brush. See Page 29.

SOUND FAILURE

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
1. No sound.	Turntable turning. No sound from record.	(a) Pick-up cartridge open or shorted.	Check contacts at connector plug to cartridge for open or shorts and check cartridge. Replace if defective.
		(b) Pick-up cable open or shorted or plug disconnected.	Check pick-up cable for open and shorts.
		(c) Blown 1.6 ampere amplifier fuse.	Check for short circuit. Replace with correct size fuse.
		(d) Defective tube.	Replace defective tube.
		(e) Loudness control turned off.	Turn up loudness control.
		(f) Mute switch shorted.	Clean and adjust mute and play switch contacts. See Page 22.
		(g) Open speaker circuit.	Check and repair open speaker circuit.
2. Sound blasts in at start of record.	Automatic level control not squelched.	(a) Mute and squelch switch not connected.	Insert muting plug.
		(b) Open contact on squelch switch.	Adjust play switch to operate squelch circuit. Check contacts.
		(c) Defective V-1, V-4 or V-2 or V-5	Replace defective tubes.
3. Poor tone quality.	Tone distortion.	(a) Remote speakers mismatched.	Check remote speakers for proper phasing.
		(b) Defective cartridge.	Replace defective cartridge.
		(c) Defective tubes.	Replace defective tubes.
		(d) Chassis not floating on mounting springs.	Unscrew chassis hold-down bolts to 1/2" clearance, chassis to cone washer.
		(e) Stereo cartridge not properly connected.	Refer to Wiring Diagram 123862 for cartridge connections.
		(f) Remote speakers not properly connected.	If no remote speakers are used, read section 7, Sound System Page 34

SOUND FAILURE CONT'D.

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
	Waver in music.	(a) Drag in turntable assembly.	Check turntable and turntable motor adjustments starting on Page 23.
		(b) Bind in turntable drive gear.	Check gear adjustment, Page 25, Par. (5)
		(c) Loose drive pulley or flywheel.	Tighten pulley. Check for proper clearance. See Page 25, Par. (4)
		(d) Too much end play in turntable shaft.	Add shim between turntable bushing and pulley. See Page 32.
		(e) Warped or Eccentric record	Replace record.
4. Hum or other noise	Noise from speakers when mechanism is changing records.	(a) Mute switch not connected.	Check mute and play switch socket and plug on amplifier.
		(b) Mute switch fails to close.	Clean and adjust mute and play switch. See Page 22.
	Noise from speakers while record is playing.	(a) Defective filter capacitor in amplifier.	Replace defective capacitor.
		(b) Defective tube.	Replace defective tube.
		(c) Tone arm wire too close to safety and trip switch cable.	Reroute tone arm cable.

TOP TUNES SELECTOR FAILURE

SERVICE CALL	SYMPTOMS	CAUSE	CORRECTIONS
1. Takes money, will not select.	Accepts half dollars. Falls to select top tunes. Selector bar remains lighted	(a) 1-1/4 amp. fuse blown in top tunes control box.	Check for short circuits or coin switch held closed in 5010 wall box. Repair and replace fuse.
		(b) Open contacts, release switch, Top Tunes Trip Assy., or contacts 7 & 11 on RY-11 or 4 & 12 on RY-2	Clean and adjust contacts. Check contacts 2 & 10 on RY-2 2800.
		(c) Open circuit at top tunes selector switch	See Wiring Diagram Pages 43 or 51. Check and repair.
	Accepts half dollars. Cannot select from top tunes bar or phonograph keyboard	(a) RY-11 does not remain energized. Open contacts 8 and 12 on RY-11 or open contacts 1 & 9 on RY-2, (2810) or 1 & 9 RY-4 (2800)	Clean and adjust contacts. See Wiring Diagram Page 45 or 51.
2. Takes money. Will not make selections from keyboard	Accepts half dollar. Will not transfer credits to playrak.	(a) Open contacts 4 & 12 on RY-3 on junction box (2800)	Clean and adjust contacts.
	Makes one selection from keyboard.	(b) Open contacts 1 & 2 of latch switch on keyboard. 2800 or 3 & 4 of 2810	Clean and adjust latch switches.
3. Takes money. Can not select any tunes.	Accepts any coin. Does not energize Pre-set solenoid or light make selection lamp.	(a) Open contacts 7 & 11 on RY-1 (2800) or open contacts 5 & 9 on RY-1 (2810)	See Wiring Diagram Pages 43 or 51.
	Accepts half dollars. Top tune bar does not light.	(a) Dirty contacts 2 & 10 on RY-2 or contacts 7 & 11 on RY-11 or 4 & 12 on RY-2 (2810)	Clean and adjust contacts.
		(b) Defective lamp, Top Tune sel.	Replace lamp. #12 G.E.

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