



R-87 Phonograph

**Field Service Manual
and
Parts Catalog**

PART NO. 2-18226-05
SECOND EDITION
1st PRINTING

SPECIFICATIONS:

GENERAL

DEPTH	26-1/2 in. (67.3 cm.)
WIDTH	41-1/2 in. (105.4 cm.)
HEIGHT	53 in. (134.6 cm.)
SHIPPING WEIGHT (DOMESTIC)	365 lbs. (166 Kg.)
NET WEIGHT	355 lbs. (151.96 Kg.)
POWER REQUIREMENTS	120VAC, 60 Hz., 480 watts 5 amps. 220/240VAC, 50 Hz., 438 watts 2.5 amp.

RECORD CHANGER MECHANISM

CAPACITY	100 records
RECORD SIZE	7 inches
SPEED	45 RPM 33 and 45 RPM (with optional Automix)

CREDIT AND PRICING SYSTEM

ACCUMULATOR TYPE CREDIT SYSTEM – ONE AND FIVE DOLLAR BILLS OPTIONAL	
COINS ACCEPTED	Nickels Dimes Quarters Half-Dollars Dollar Coins
TOTAL CREDIT ACCUMULATIONS	.99
PRICING	See Pricing, Page 7

SOUND SYSTEM

CARTRIDGE	
TYPE	Shure Dynetic Variable Reluctance
FREQUENCY RESPONSE	20 to 20,000 Hz.
CHANNEL SEPARATION	25 db @ 1,000 Hz.
NOMINAL COMPLIANCE	$.20 \times 10^{-6}$ cm/dyne
TRACKING FORCE	.3-4 grams
OUTPUT	7 mv.
STYLUS	1 mil. diamond

POWER AMPLIFIER	
125 watt Stereo	
FTC Rating, 4 Ohm Loads @ 1% THD	144 watts RMS
FTC Rating, 70V Lines @ 1% THD	126 watts RMS

PREAMPLIFIER	
AVC CONTROL RANGE	40 db
TREBLE CONTROL	12 db/octave 10,000 Hz. full 6,000 Hz. moderate 3,000 Hz. low
BASS CONTROL	Compensates for bass loss at low volume levels 12 db per octave.

R-87 PHONOGRAPH



SELECTION SYSTEM

CAPACITY 200 Selections

TRANSFORMER PACKAGE

POWER LEVELS FOR PHONOGRAPH SPEAKERS 1, 4, 16, 28, 64 watts
 PROVIDES 70-VOLT LINE FOR EXTENSION SPEAKERS

SPEAKER SYSTEM

	LOW FREQUENCY	MID/HIGH FREQUENCY
SPEAKER DIAMETER	10 inches	6 inches
VOICE COIL DIAMETER	1-1/2 inches	1 inch
IMPEDANCE	30 ohms	8.5 ohms
CROSSOVER	400 Hz.	
SYSTEM FREQUENCY RESPONSE	50 to 12,000 Hz.	

LIGHTING

DOORS Fluorescent, 30 watts, 36 inch (T-8), 7-00601-12

CONTROL PANEL Fluorescent 13W, 21 inch, Part No. 7-00601-15

CREDIT WINDOW Light Emitting Diode 7-00353-03

FLASHING LIGHTS T-1 3/4 Sub miniature
 14V

FUSES AND CIRCUIT BREAKERS

MAIN POWER SUPPLY

120 VAC CIRCUIT (Transformer
 Primary Only) 2 Amp Circuit Breaker, 7-00733-15

120 VAC CIRCUIT 10 Amp Circuit Breaker, 7-00734-25

+ 28 VDC CIRCUIT 5 Amp Slo-Blo Fuse 7-00721-06

+ 8 VDC CIRCUIT 5 Amp Slo-Blo Fuse 7-00721-06

AMPLIFIER

Stereo - 125 W

120 VAC CIRCUIT 3 Amp Circuit Breaker, 7-00733-17

DC CIRCUIT 5 Amp Fuse, Type MTH-5 (4) 7-00720-10

IMPORTANT

THIS IS A SECTIONALIZED SERVICE MANUAL/PARTS CATALOG. PLEASE TAKE THE TIME TO READ THIS PAGE, AND REVIEW THE TABLE OF CONTENTS THOROUGHLY TO OBTAIN MAXIMUM BENEFITS FROM THIS PUBLICATION.

The first five sections of this Manual are organized to fully realize the serviceability which is engineered into each Phonograph.

These sections are intended primarily for location use to provide familiarization with phonograph components and accessories. Included are detailed system descriptions, procedures for unpacking, set up & installation, programming, routine location servicing and a valuable procedure guide for sequential troubleshooting to isolate a malfunction to one of the plug-in circuit modules.

The troubleshooting isolation procedure detailed in Section 4 is based entirely on visual observation, utilizing the LED indicator lamps on the main power supply and circuit modules. Also in Section 4 are comprehensive Block and Wiring Diagrams.

Section 5 illustrates locations of fuses and circuit breakers and offers a compatibility chart.

Section 6, the PARTS CATALOG, contains a complete listing of procurable replacement parts except for electronic components that are listed directly on the wiring diagrams.

A separate publication, OPERATION SEQUENCE AND SCHEMATICS, elaborates to provide information for the repair of circuit boards and the replacement of electronic components. The information and procedures are intended for an ADVANCED LEVEL OF MAINTENANCE where test equipment is available and service personnel have had electronics training. This publication is available from your distributor. Please order Part No. 3-65355-07.

This equipment has been tested to show compliance with new FCC (47 CFR Part 15) designed to limit interference to radio and TV reception.

warranty

Rowe extends to the original operator of this equipment the following warranty:

All parts are guaranteed to be free of defects in material and workmanship for the specific periods which follow. Rowe agrees to repair without charge during such period any part which proves defective upon examination by Rowe. All costs of shipping an allegedly defective part to or from Rowe's offices shall be borne by the original operator.

Mechanical Moving Parts	5 years
Electrical and Electronic Parts	2 years
Lamps and Styli	90 days

In the case of parts supplied to Rowe as components, Rowe extends the same warranty period as extended by the original manufacturer.

The above warranty applies provided that all parts of the machine have been serviced properly as directed in the service manual, and provided the alleged defective part, upon examination by Rowe, shall prove to be thus defective.

This warranty will not apply to any machine or any part which has been subjected to any accident, abuse, or misuse.

ROWE INTERNATIONAL, INC. EXTENDS NO WARRANTY, EXPRESSED OR IMPLIED, TO PURCHASERS OR USERS OF ITS PRODUCTS EXCEPT AS HEREIN SET FORTH, WHETHER BY OPERATION OF LAW OR OTHERWISE.

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DIGITAL ANNUNCIATOR displays selection playing, customers selections, most popular tune, credits remaining.

SELECTOR KEYBOARD enters customer selections.

DIGITAL ANNUNCIATOR

SELECTOR KEYBOARD



2 - 6" SPEAKERS

CENTRAL CONTROL COMPUTER This unit controls all functions of the phonograph.

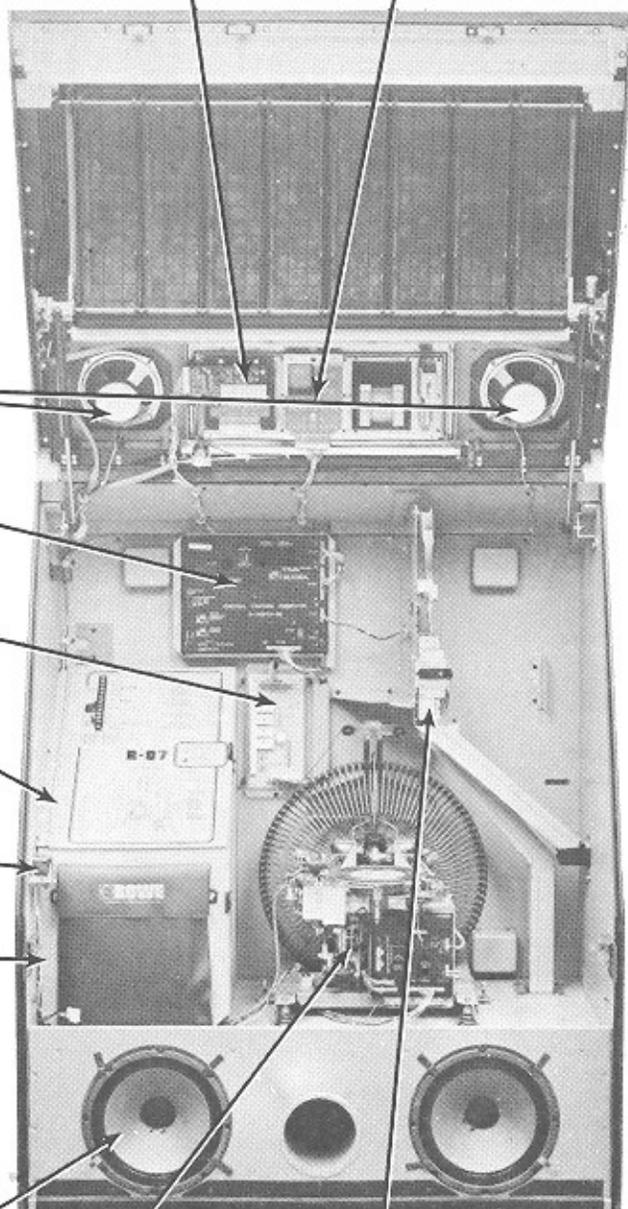
PRICE BOARD

PREAMPLIFIER AND AMPLIFIER (Inside Enclosure) amplifies cartridge output and drives speaker system.

OUTPUT TRANSFORMER PACKAGE matches amplifier output to speaker system impedance.

SERVICE SWITCH

MAIN POWER SUPPLY distributes 120 volt power to components and provides 28 VDC, 8 VDC and 28 VAC. Fused and regulated.



SLUG REJECTOR/COIN SWITCHES accepts valid coins; establishes credit in credit system.

MECHANISM CONTROL UNIT controls scan, transfer, and toggle shift functions for mechanism.

SPEAKER SYSTEM consists of two 10 inch low frequency speakers and two 6 inch wide range speakers (see above) for high and mid frequencies. Crossover networks are provided.

FIGURE 1. PHONOGRAPH MAJOR COMPONENTS

SECTION 1-SYSTEM DESCRIPTION

INTRODUCTION

The Rowe Model R-87 is a 200 Selection Stereo Phonograph. It has 100% Microprocessor Based Solid State Control.

The Central Control Computer is mounted on the rear wall of the cabinet. This unit controls all functions of the phonograph.

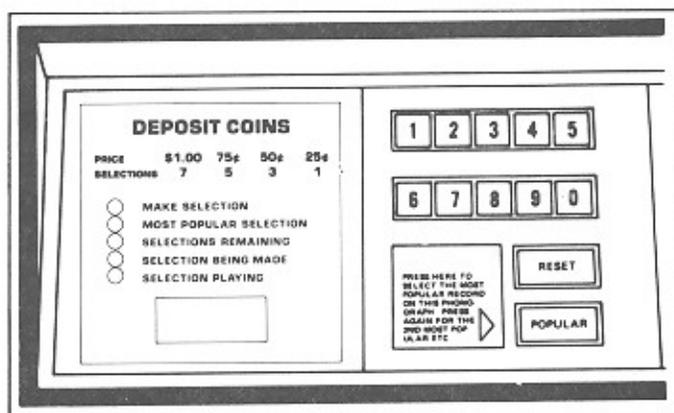
Grouped around the Central Control Computer are the Mechanism mounted on the center of the cabinet base, the coin acceptor and coin switches on the right side panel, and the digital annunciator, selector keyboard all located on the top door.

The pricing board provides the opportunity to add diodes to give different credit level ratios, coin ratios, dollar bill bonus, and premium pricing. Plays per price can be changed by merely inserting different price insert boards.

The Main Power Supply is located in the enclosed compartment.

The 125 Watt Stereo Amplifier is in the enclosed compartment.

The display area includes a three digit numerical display and four LED lamps. The numerical display has four distinct functions while the lamps indicate which function is in effect.



MOST POPULAR RECORD

When the phonograph is "scanned out" the numerical display shows the number of the tune which has been selected the greatest number of times since the last time the machine was serviced.

SELECTION BEING MADE

While a selection is being made the numerical display shows the number of the tune being selected. This number remains on the display for 5 seconds after the third digit is entered at the keyboard.

SELECTIONS REMAINING

After each selection and after each deposit of money the number of selections which remain to be made is displayed for 5 seconds.

SELECTION PLAYING

While the phonograph is playing, if no selection is in the process of being made, the number of the tune being played will appear on the display.

MECHANISM

An aim of the mechanism design was to eliminate mechanical units such as the annunciator, popularity meter, and search unit. These have been replaced by electronic assemblies. By redesigning the mechanism to incorporate the latest electronics we have eliminated some of the drive train. This means less parts for wear, plus quiet and smooth operation.

CENTRAL CONTROL COMPUTER

The Central Control Computer is the brain of the phonograph. It controls the memory for the select system and the credit system. It can store up to \$12.25 in credit and convert this into plays (up to 99). When the On-Off service switch is in "Service" position, the microcomputer will search and display popularity. The most or least popular records can be found. Total selections and money are also displayed.

The Playmaker is part of the computer. It will stimulate plays by letting the customer know that the phonograph is there. It plays a flip side selected at random whenever the phonograph has been silent for twenty or forty minutes. The phonograph is shipped from the factory with the four position switch set on 20 minutes. The switch can be set for 40 minutes, 20 minutes, continuous or off.

MEMOREC

The Memorec function has been expanded and incorporated into the Central Control Computer. Memorec has the following features:

- Records the number of times each record side is selected. Selections made by use of the "Most Popular Record" key do not increase the count of the individual record side but are counted separately and also included in the total.
- Records the total number of selections made. Selections made by "Playmaker" are not included in the total or in the individual side counts.
- Records the total amount of money deposited in the phonograph including any Wallettes which are connected to it.

SOUND SYSTEM PRINCIPLES OF OPERATION

The phonograph sound system translates stylus vibration into electrical voltage, amplifies the voltage and the speaker converts it into sound. The sound system consists of a stylus and cartridge, a stereo preamplifier and amplifier unit, a speaker system, a volume control and an output transformer package. Identification and location of each major component is shown in Figure 1. The purpose and description of each major component is explained in the following paragraphs.

STYLUS AND CARTRIDGE. The stylus and cartridge convert mechanical movement into equivalent electrical voltage. The unit is mounted on the record changer tone arm. This output voltage is transmitted through shielded cable to the preamplifier.

AMPLIFIER. The amplifier unit amplifies phonograph cartridge output and drives the speaker system. The latest concepts in silicon transistor circuitry are designed into the 125 watt stereo systems. It delivers a full 62.5 watts rms power per channel. Its wide frequency response and low distortion assure good record reproduction. The unit incorporates automatic volume control (AVC).

The output stage is coupled to the speakers. Treble range and bass boost controls are provided on the preamplifier to compensate for differences in room acoustics. A mute relay silences the amplifier while a record is being transferred to or from the turntable. Circuitry is completely solid state for durability and long service life.

Protection is included for voltage transients, excessive heat and accidental shorting of speaker leads.

PREAMPLIFIER. The preamplifier amplifies the phonograph cartridge output to drive the power amplifier. The components for both the right and left audio channels are contained in a single plug-in circuit board mounted under the amplifier chassis.

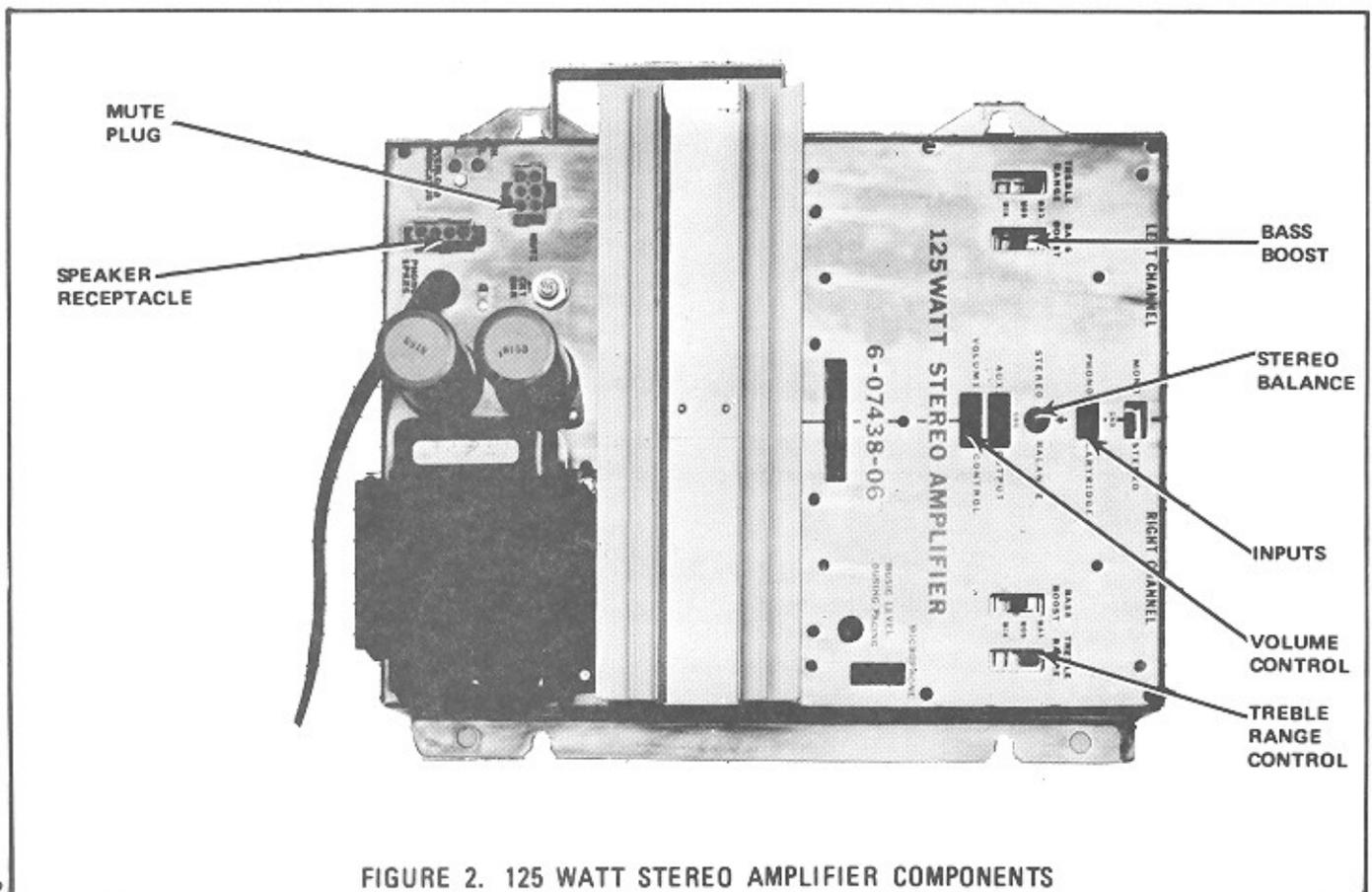


FIGURE 2. 125 WATT STEREO AMPLIFIER COMPONENTS

OUTPUT TRANSFORMER PACKAGE (see Figure 3). The transformer package enables the amplifier to operate 70 volt lines for extension speakers. The package also provides terminal strips for obtaining several different power levels for both phonograph and extension speakers. The unit consists of two output transformers and associated parts mounted on a single chassis. The chassis is mounted in the enclosed compartment.

The output transformer secondary connections are available at three terminal strips. Phonograph speaker power is selected by connecting the violet and pink leads according to Table 3. Extension speakers can be connected as directed in Table 5 of speaker connection chart.

SPEAKER SYSTEM. The speaker system consists of two 10 inch low frequency speakers, two 6 inch wide range speakers.

The 10 inch, heavy duty speakers are mounted in the cabinet. The 6 inch speakers are mounted in the lid.

TWO WIRE VOLUME CONTROL. A Rowe exclusive, the two wire volume control simplifies large, complex installations and saves costs. Re-designed preamplifier circuitry permits remote volume control operation using two unshielded wires. Any wires can be used - there are no special requirements for conductor size and shielding.

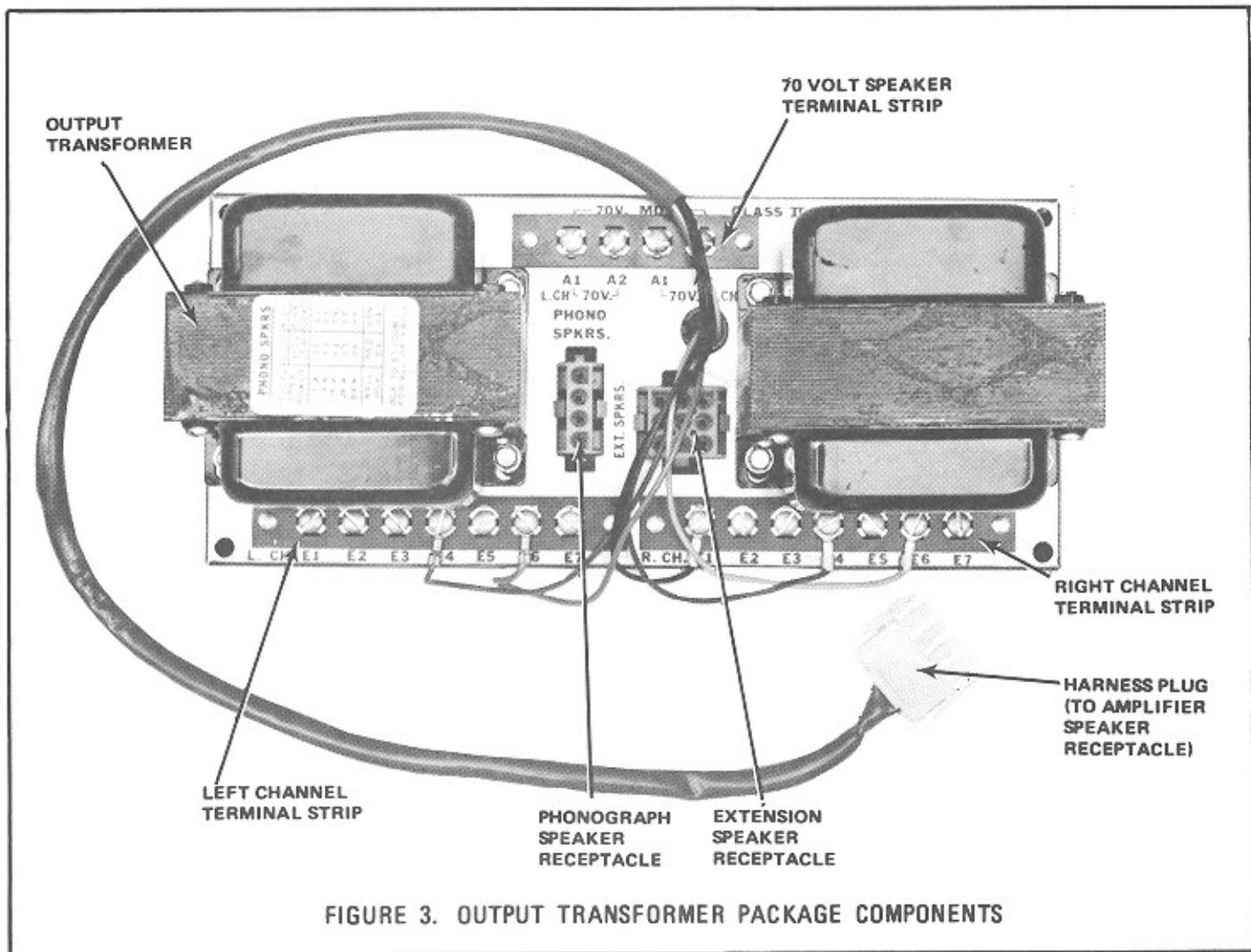


FIGURE 3. OUTPUT TRANSFORMER PACKAGE COMPONENTS

SELECTION SYSTEM

The selection keyboard has ten numbered buttons plus two which are marked "Reset" and "Most Popular Records".

To make a selection deposit money to establish credit. The numbered display will show the number of selections available. Press the numbered buttons on the keyboard in order corresponding to the desired selection number as shown on the title rack. As the digits of the selection number are pressed, they will appear on the numerical display. Only legal selection numbers will be accepted. For example if any number other than a 1 or 2 is pressed as a first digit, it will be ignored. Nothing will happen. It is not necessary to press "Reset". Merely press the correct first digit.

If you change your mind after beginning to make a selection pressing "Reset" will erase the partial selection number and also allow you to enter a new number. "Reset" is not effective after the third digit has been entered.

Press "Popular" button to select the tune which has been selected the greatest number of times since this phonograph was serviced last.

Press "Popular" button a second time to select the second most popular tune. This process may continue until credit is used up.

NOTE

If selections are made manually before "Most Popular Record" is used, no selections are repeated even if the manual selections are most popular. Thus the customer is not "cheated".

The most popular selection sequence is reset when credit is exhausted.

POWER SUPPLY

The main power supply distributes unregulated +28 VDC and 28 VAC, and regulated +8 VDC to the phonograph components. Power is controlled by a rocker switch located on the back of the chassis. 120 volt AC receptacles are provided for the amplifier, lights, accessories and service equipment. The AC receptacles and transformer primary are protected by 10 amp circuit breaker CB1 while circuit breaker CB2 protects the transformer primary only. Both the circuit breakers can be reset from the front panel.

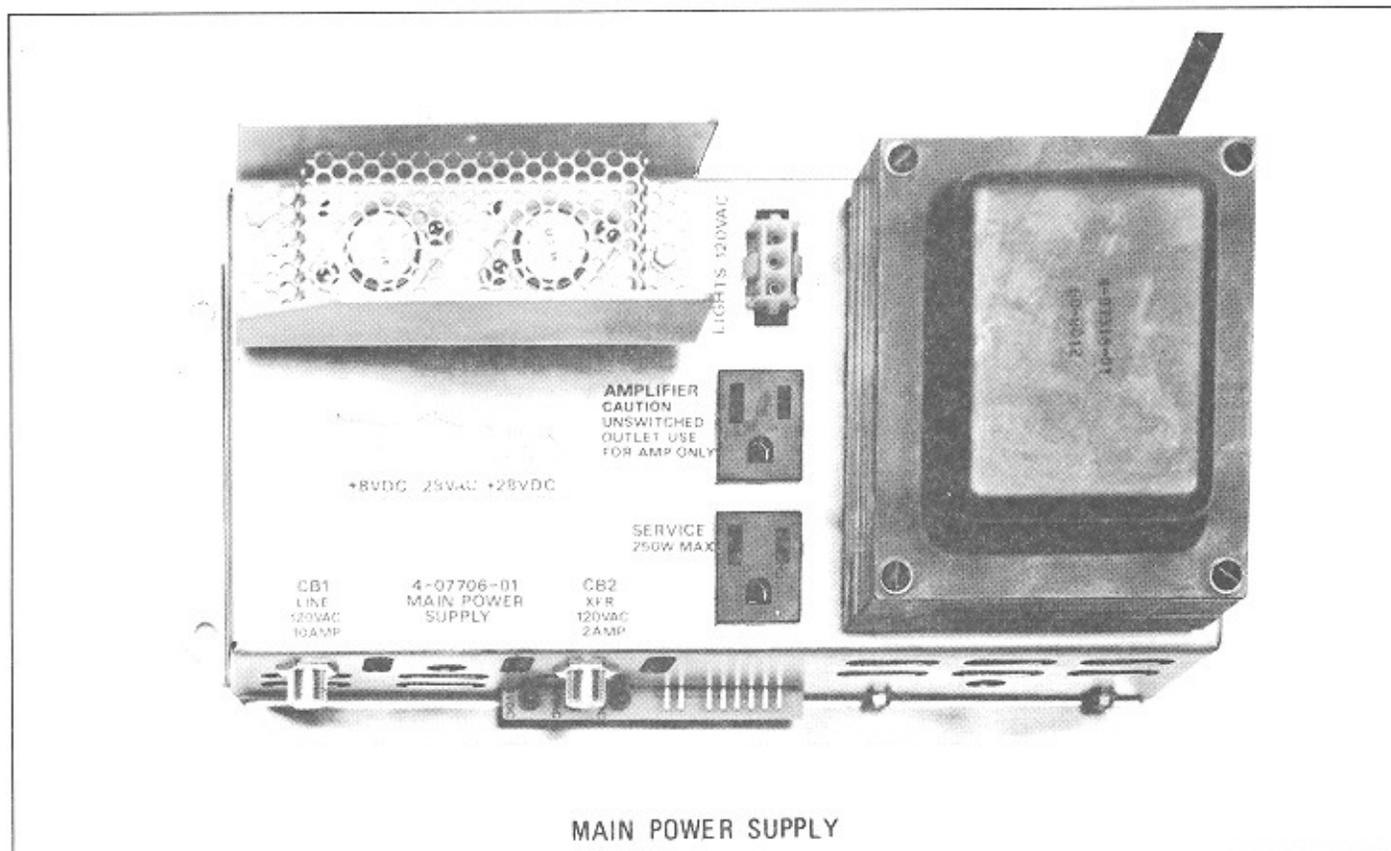


TABLE 1. ACCESSORY EQUIPMENT

PART NO.	DESCRIPTION	FUNCTION
2-67013-03	One & Five Dollar Bill Acceptor Kit (Includes Bill Stacker)	Accepts valid one & five dollar bills.
2-66946-04	Phono Paging System Amp Accessory Kit	New improved Paging System, not affected by A.V.C. All Plug-in unit, complete with microphone and 50 feet of microphone cable. Allows use of phono sound system for paging.
2-67014-01	Paging Adapter Kit	Adapts paging equipment for R-83 thru R-86 phonographs for use with R-87 and later phonographs.
2-66947-02	Amplifier Accessory Kit	Provides access to auxiliary inputs and outputs of the preamplifier. Inputs will accept signals from most background music sources such as tape players and AM or FM radios. Outputs available to drive slave amplifiers before or after volume control.
2-67003-01	125 Watt Amplifier Harness Kit	Three Adapter Cables to interchange combo line plugs with Universal plugs.
3-06322-01	Remote Volume & Cancel Control	Remote stereo volume control and cancel button. Does not include cable.
6-08980-04	Remote Volume Power Switch, & Cancel Control	Volume Control incorporates on-off switch. 115V only.
3-06322-09	Dual Remote Volume Control	Controls volume of each channel separately. Does not include cable.
2-08199-07	Remote Volume and Cancel Control Cable	For connecting remote volume control to phonograph 3-conductor cable, 50 ft. length.
2-08199-08	Remote Volume and Cancel Control Cable	For connecting remote volume control to phonograph 4-conductor cable, 50 ft. length.
6-65047-05	Service Kit	Includes Central Computer, Mech Control, Power Supply Board and Fuses.
6-07447-01	Extension Speaker (Model EX 350)	32 watt, two channel system includes 3-1/2 tweeter and 10 inch bass speaker.
6-09001-01	WRE Wallethe Wallbox	Remote control unit for solid state phonograph. Takes nickels, dimes, quarters and half dollars.
2-66989-01	Wallbox Adaptor Harness Kit (WRE)	For making internal connections in phonograph to allow installation of WRE Wallbox.
4-06891-01	Auxiliary Power Supply	Permits operation with WRA, WRB, WRC, WRD & WRE Wallboxes.
2-66965-02	Wallbox Interface Kit	Permits operation with WRA, WRC and Seeburg wallboxes.
2-66965-01	Wallbox Interface Kit	Permits operation with WRD Wallbox.
0-05081-00 Belden No. 8447 Columbia No. 4082	7 Conductor Cable	For connecting WRE to phonograph. (Not supplied by Rowe)
0-05076-00 Belden No. 8449 Columbia No. 4084	9 Conductor Cable	For connecting WRD Wallethe to phonograph. (Not supplied by Rowe)
2-67009-01	InterROWEgator	Portable Print Out Device to interrogate Juke Box Data.
2-66995-02	Security Bar Kit	Heavy steel bar locks in place over cash box door.
2-66681-06 2-66681-08	Automix Kit (60 Hz.) Automix Kit (50 Hz.)	Enables phonograph to play 33 and 45 RPM records interchangeably.

SECTION 2- INSTALLATION AND PROGRAMMING

INTRODUCTION

This section contains instructions for unpacking the phonograph and installing it on location. The phonograph is shipped with all major components in place. Save all tie-down hardware should it become necessary to move the phonograph to another location.

ACCESSORIES BAG ASSEMBLY

Included is a plastic bag containing slip-on terminals connecting accessories, an assortment of spare fuses and spare contacts for connectors. It is recommended that you leave the Service Manual and the accessory bag assembly in the phonograph cabinet in case they are needed.

WARRANTY REGISTRATION CARD

A postage-paid warranty registration card is included with the phonograph. Use this card to register the phonograph for in-warranty repairs.

UNPACKING INSTRUCTIONS

The phonograph is shipped in one carton, ready for installation. The shipping carton should be opened carefully to prevent the phonograph from being damaged or scratched. Inspect the exterior and interior of the cabinet for evidence of damage.

In case of damage, please notify the delivering carrier at once to call and examine the phonograph regardless of the external condition of the boxes. Under U.S. regulations, damage claims must be collected by the consignee. Do not return shipping-damaged merchandise until after your claim has been established. Once your claim is established, damaged merchandise may be returned to the Rowe distributor for repair. The invoice for repair charges may then be collected from the carrier. Do not destroy packing material or boxes until the carrier's agent has examined them. Unpack the phonograph as follows:

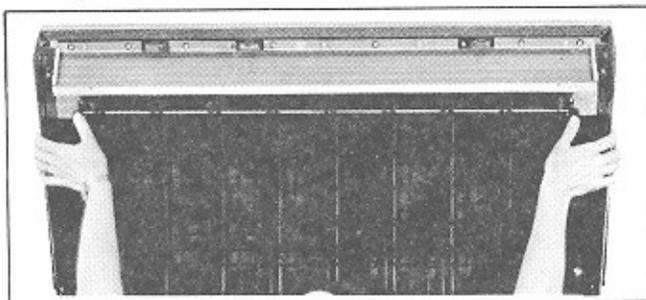
REMOVE PACKING CASE

1. Carefully open packing case. Do not use shipping hooks or other sharp instruments.
2. Remove plastic bag from phonograph cabinet.

OPEN PHONOGRAPH CABINET

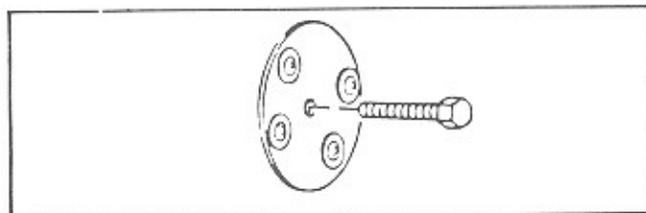
1. Locate red key bag and open lid.
2. Remove shipping brackets, release latches and open doors.

3. Remove tape from title panel. Release title panel by pressing down on spring catch as shown. Swing panel down as shown.

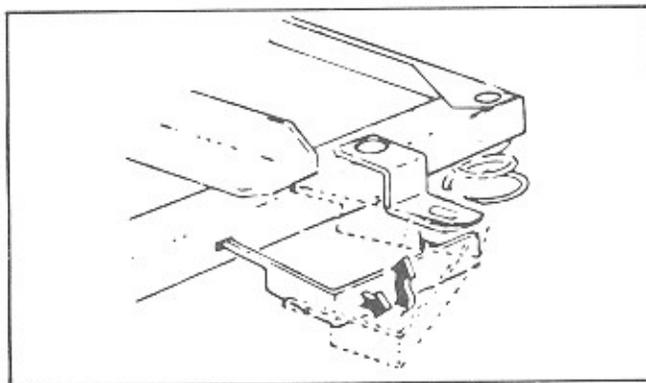


REMOVE RECORD CHANGER MECHANISM TIE-DOWN BOLTS

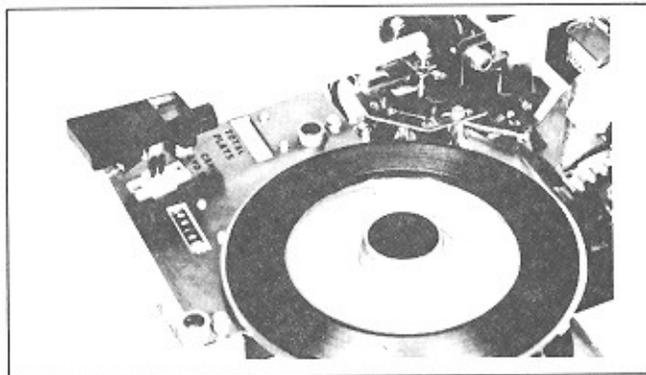
1. Remove shipping bolt from rear of cabinet as shown.



2. Rotate record changer tie-down brackets away from mechanism support frame as shown. Lift up and remove.



3. Remove rubber bands and shipping block from tone arm.



4. Remove turntable hold-down clip. Replace screw.
5. Remove stylus cover from cartridge and stylus.
6. Save shipping hardware for future use.
7. Remove adhesive tape.
8. Check that all plugs are firmly seated in their respective receptacles.

LEVEL PHONOGRAPH

Level the phonograph cabinet left-to-right and front-to-back to ensure proper slug rejector operation. This is done by placing spacers under the caster wheels.

PROGRAMMING CREDIT AND SELECTION SYSTEM

PRICING

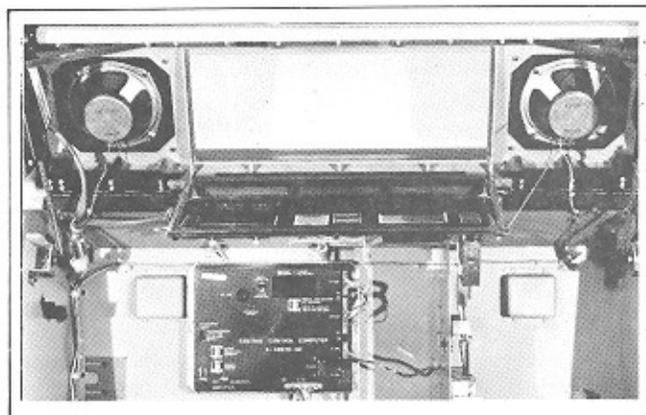
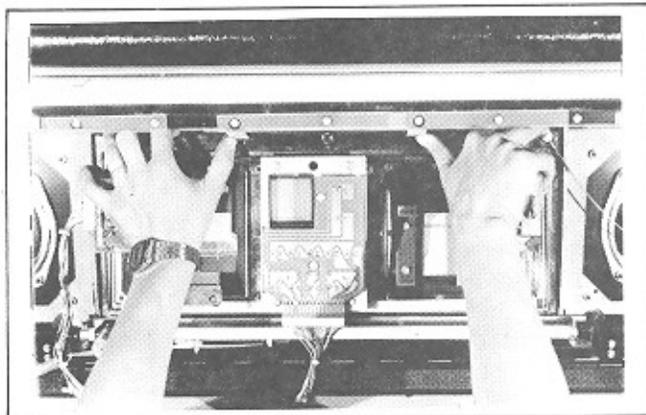
A ROWE exclusive simplified pricing procedure is incorporated in the R-87. All price programming is done on the Pricing Board (6-08878-04). The phonograph is shipped from the factory with prices set at:

7 plays for \$1.00
 5 plays for .75
 3 plays for .50
 1 play for .25

PRICE SELECTIONS	\$1.00 4	75c 3	50c 2	25c 1	PRICE SELECTIONS	\$1.00 12	75c 8	50c 5	25c 2	
PRICE SELECTIONS	\$1.00 6	75c 4	50c 2	25c 1	PRICE SELECTIONS	\$1.00 14	75c 9	50c 5	25c 2	
PRICE SELECTIONS	\$1.00 7	75c 4	50c 3	25c 1	PRICE SELECTIONS	\$1.00 15	75c 11	50c 7	25c 3	
PRICE SELECTIONS	\$1.00 9	75c 6	50c 3	25c 1	PRICE SELECTIONS	\$5.00 35	\$1.00 7	75c 5	50c 3	25c 1
PRICE SELECTIONS	\$1.00 8	75c 6	50c 4	25c 2	PRICE SELECTIONS	\$5.00 40	\$1.00 7	75c 5	50c 3	25c 1
PRICE SELECTIONS	\$1.00 10	75c 7	50c 5	25c 2	PRICE SELECTIONS	\$5.00 50	\$1.00 7	75c 5	50c 3	25c 1
PRICE SELECTIONS	\$1.00 11	75c 8	50c 5	25c 2	\$ BILL	\$ BILL	\$ BILL			
					8	9	10			
					\$5 BILL	\$5 BILL	\$5 BILL			
					40	45	50			

UNIVERSAL PRICE CARD
(PEEL OFF)

To change pricing open the top door, push two selector catches upward and allow the selector area to pivot down as shown below. This will give easier viewing to the digital display when checking pricing. Remove plastic cover from Pricing Board. A complete set of price inserts is shipped with each phonograph. Select the inserts you wish to use and plug them in. Select the matching prices from the universal price card sheet and attach to the spare price card.



DEPOSIT COINS

PRICE	\$1.00	75c	50c	25c	
SELECTIONS	7	5	3	1	← APPLY STRIP WITH NEW PRICING HERE

- MAKE SELECTION
- MOST POPULAR SELECTION
- SELECTIONS REMAINING
- SELECTION BEING MADE
- SELECTION PLAYING

NOTE

We suggest that unused price inserts be kept in the phono in the bag they came in for safekeeping. If inserts are lost replacements may be ordered from your Rowe distributor (part no. 2-18507-01 thru -16).

The Pricing Board has spaces for six inserts. One labelled "Premium Ratio" sets the number of standard plays equal to one premium play. This is used only on phonographs programmed for premium play. The Automix Kit (Part No. 2-66681-06) includes a special price card for such phonographs. If the phonograph is not programmed for premium play this insert may be omitted. If the phonograph is programmed for premium play and this insert is omitted, the premium records will be played free provided there is credit on the machine.

DOLLAR BILL BONUS

Diodes CR331 and CR332 may be used to add bonus plays for the deposit of a dollar bill or one dollar coin above the number of plays for a combination of smaller coins equal to a dollar. CR332 adds one bonus play, CR331 (2) bonus plays. Installing both adds (3) bonus plays.

The second insert position labelled "1 play price" sets the price of a single play if less than 25¢.

- Use insert #1 for 5¢.
- Use insert #2 for 10¢.
- Use insert #3 for 15¢.
- Use insert #4 for 20¢.

The remaining four positions are labelled "Credit Level 1", "Credit Level 2", "Credit Level 3", and "Credit Level 4". In the U.S.A. these levels are factory set at 25¢, 50¢, 75¢ and \$1.00. Select the price inserts with numbers desired at each credit level and plug them in.

FIVE DOLLAR PRICING

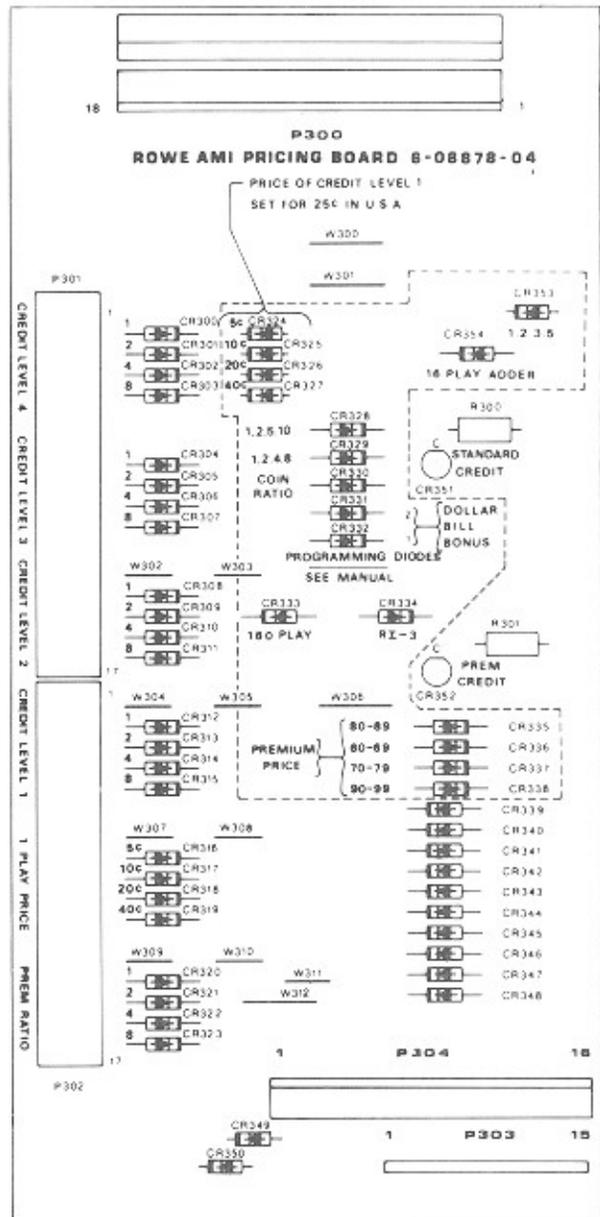
If a \$1 and \$5 Bill Acceptor is used, credit is 5 times \$1. If a \$5 bonus is desired use 1, 2, 4, 10 credit level ratio. (Install CR328, and 329.) This sets credit levels at 25¢, 50¢, \$1.00 and \$2.50. Add diode CR354 to allow Credit Level 4 to be set at 16 + whichever price insert is used, ie 16 + 1 or 2 or 3 or - - etc., to - - - 15. Credit for \$5 is twice credit level 4. This then gives \$5 credit of 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, etc. to 62. See Shop Manual for other possible combinations.

NOTE

Inserts may be changed by cutting runners, See page 75.

If any position is programmed for zero (or if an insert is omitted) that level will be ignored. Reassemble the Pricing Board plastic cover. Test to make certain that the price program works as desired by dropping coins or by using the manual credit button (each push = 25¢). Watch the digital display near the selector keyboard to see how many plays you get at each credit level.

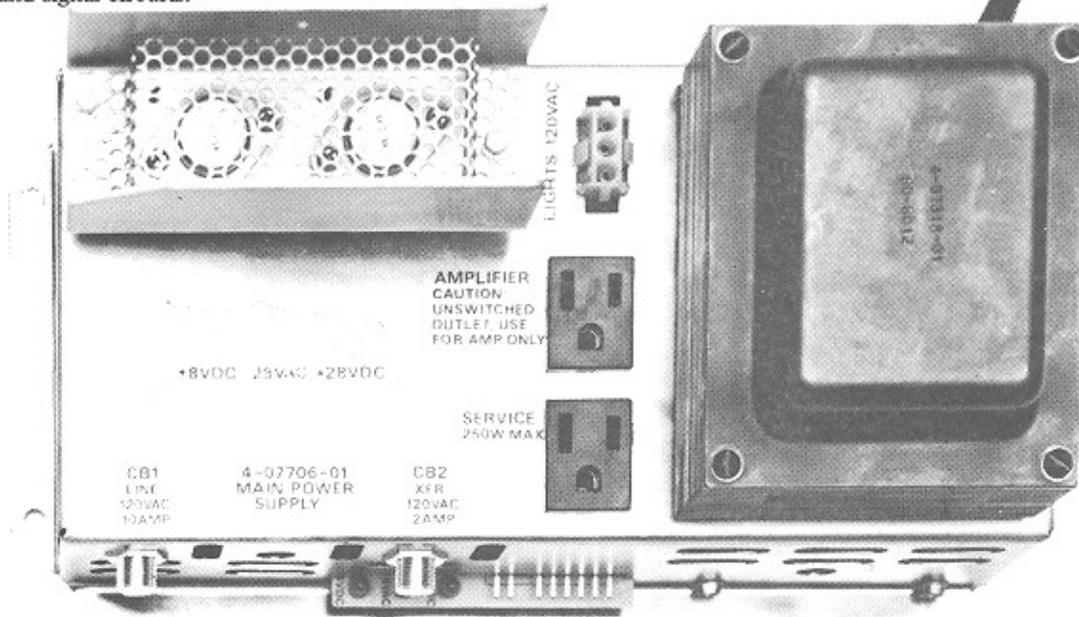
The "Make Selection" lamp will light when there is enough credit to make one or more selections. On Phonos which have the Automix Kit installed, the "Make Premium Selection" lamp will light when there is enough credit to make one or more premium selections. A Premium selection will reduce the "Selections Remaining" by an amount equal to the "Premium Ratio".



OPERATIONAL INFORMATION

STATUS LAMPS

Red indicator lamps are connected to various strategic points in the phonograph circuit to indicate status of power and signal circuits.



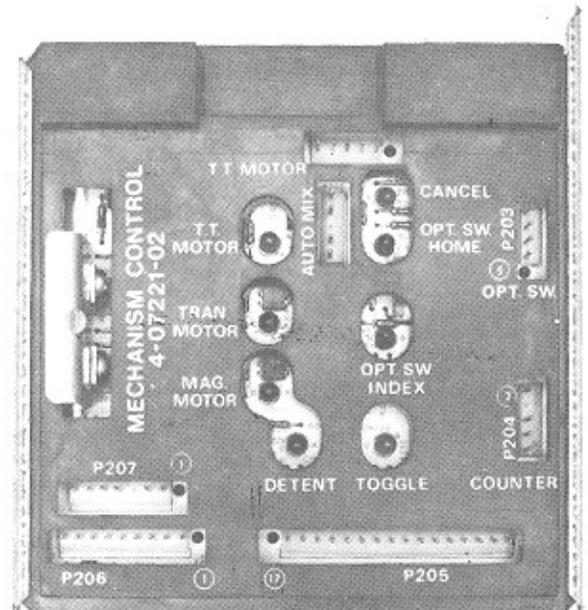
Power Supply

+ 8 Volts DC
+ 28 Volts DC
28 Volts AC

Shows presence of respective voltage and implies that there is no short on the lines.

Mechanism Control

- | | |
|-----------------------|---|
| T.T. Motor | Lights when Turn Table motor command is present. Motor should be running. |
| Tran. Motor | Lights when Transfer command is present. Transfer motor should be running. |
| Mag. Motor | Lights when Magazine Motor command is present - Motor should be running. |
| Detent | Lights when Detent command is present. Detent coil should be actuated. Detent disengaged. |
| Toggle | Lights when Toggle Command is present. Toggle coils should be actuated. Both toggle pins moved to left. |
| Opt. Sw. Index | Lights when the Index section of the optical switch sees the tooth space of the magazine drive gear. Flickers when the magazine rotates. |
| Opt. Sw. Home | Lights when the Home section of the optical switch sees the hole in the magazine drive gear. Flashes when the magazine record position 99 passes the Transfer position. |
| Cancel | Lights when the cancel signal line is shorted to ground. |



SOUND SYSTEM

ACOUSTICAL COMPENSATION (BASS AND TREBLE CONTROLS)

The pre-amplifier contains treble range and bass boost controls to compensate for room acoustics in various locations. These controls are on the amplifier chassis. The sound level at which the phonograph will be operated and the room furnishings determine the settings of these controls. A room with carpeting and drapery is a soft or highly-absorbent location. A crowded room is also highly-absorbent. These locations require higher sound levels. A room with paneled walls and a bare or tiled floor is a hard non-absorbent location. Bass boost and treble range control settings are listed in Table below. Note that more bass boost is required at low volume levels. The amplifier incorporates circuitry that provides extra bass compensation at low volume levels.

PAGING

Paging circuitry is now a part of the 6-07925-01 Preamplifier. The microphone plugs directly into the Preamplifier.

STEREO BALANCE

The stereo balance control is provided to equalize left and right channel amplifier output. This control is factory-adjusted for best performance. If adjustment is required, play a monaural selection and adjust the control for equal sound from each top speaker. When balanced, the sound will seem to come from the center of the phonograph.

AMPLIFIER OPERATION WITH HIGH LINE VOLTAGE

In locations where input line voltage to the phonograph exceeds 125 volts, use the black/red primary lead of the amplifier power transformer instead of the black/yellow lead. This results in a 10% reduction in secondary voltage.

AMPLIFIER OPERATION WITH FM, BACKGROUND MUSIC, QUAD

This is an optional, add on accessory. See Accessory equipment section for explanation of the Amplifier Accessory Kit.

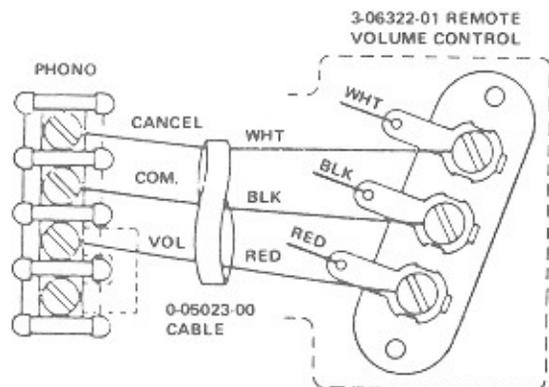
TABLE 2 USE OF AMPLIFIER CONTROLS FOR ACOUSTICAL COMPENSATION

SOUND LEVEL IN ROOM	ROOM ACOUSTICS					
	DEAD OR SOFT HIGHLY ABSORBENT		AVERAGE - MODERATELY ABSORBENT		LIVE OR HARD NON-ABSORBENT	
	SET BASS BOOST CONTROL	SET TREBLE RANGE CONTROL	SET BASS BOOST CONTROL	SET TREBLE RANGE CONTROL	SET BASS BOOST CONTROL	SET TREBLE RANGE CONTROL
LOUD	LOW	MOD/MAX	LOW	MOD/MAX	MOD	LIM
MODERATE	LOW	MAX	MOD	MOD/MAX	MAX	LIM
SOFT	MOD	MAX	MAX	MAX	MAX	MOD

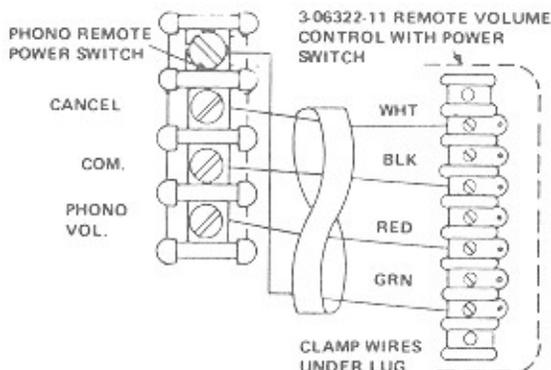
Note: Reduce Treble Range setting as required by record noise (scratch) conditions.

REMOTE VOLUME AND CANCEL CONTROL

Connect the 3-06322-01 remote volume and cancel control to the Phonograph as shown below.



REMOTE VOLUME AND CANCEL CONTROL WITH POWER SWITCH



EXTENSION SPEAKER OPERATION

Care must be exercised when adding extension speakers to the phonograph to avoid poor sound. Three requirements must be met:

1. The speakers must be wired so that the power consumed by the phonograph speakers and the extension speakers, including WalleTTes, does not exceed the power rating of the amplifier.
2. The extension speakers should produce the desired sound level relative to the sound level of the phonograph speaker system. This is done by adjusting the amount of power consumed by each speaker until the desired balance is reached.
3. All speakers must be connected with the correct polarity. This means that all speaker cones in the system will move in the same direction at the same time.

Several charts have been included to assist in the connection of extension speakers. Figure 4 is a chart of the entire sound system. NOTE that the left channel output of the amplifier is reversed in phase (or instantaneous polarity) with respect to the right channel. This phase reversal makes monaural extension of sound possible in a stereo system. This phase reversal is accomplished in the preamplifier. Because of this phase reversal, speaker connections to the left channel must be reversed when compared with connections to the right channel except for the 70 volt speaker connections which are in phase. (The left channel is reversed within the output transformer assembly.)

Power to the phono speakers must be reduced as extension speakers are added so that the total speaker power does not exceed the power rating of the amplifier. Table 3 gives connections for different phono speaker power levels and corresponding power available for extension speakers. The phono speakers can be considered as two 8 ohm speakers—one for each channel.

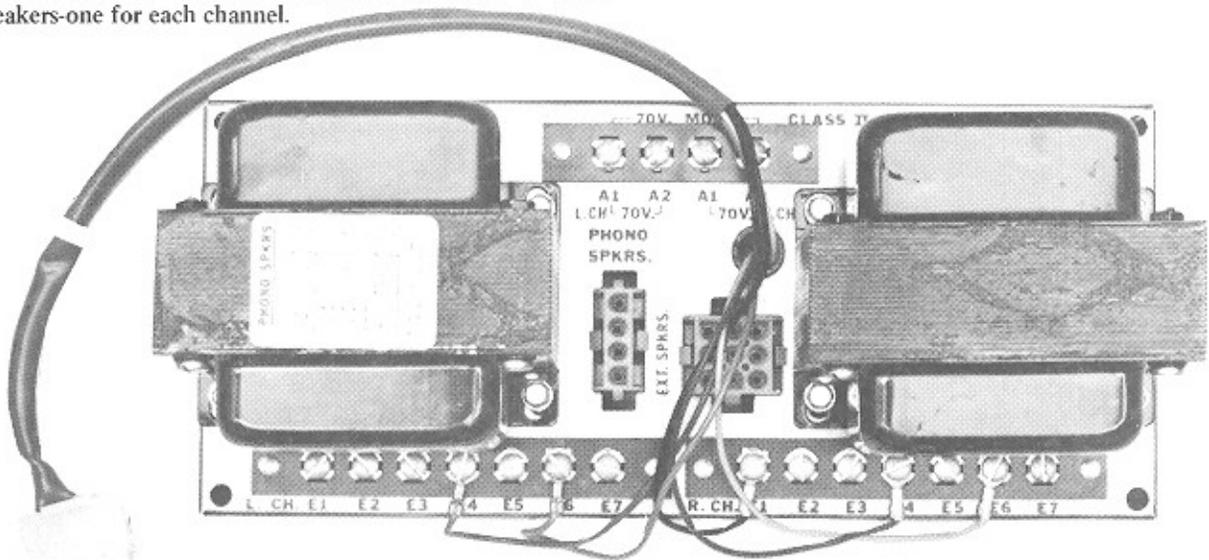
Table 5 and 6 are extension speaker connection charts for different power levels. Power levels are indicated for low impedance speakers as well as for 70 volt speakers. For 70 volt speakers, the power level is set at each speaker. Low impedance speakers, i.e. 8 ohm speakers, can be used where the connecting cable is under 100 feet. The loss in 100 feet of zipcord feeding one 8 ohm speaker is 15%. For two 8 ohm speakers it would be 30%. 4 ohm speakers should not be parallel on the same speaker line because of high line losses. Instead, a separate line from each 4 ohm speaker to the phonograph should be used. To avoid prohibitive cable losses on long speaker lines, 70 volt speakers must be used. These contain built in transformers that permit setting of the desired power level.

Do not connect a low impedance speaker for more power than it can handle. For example, a 5 watt, 8 ohm speaker should not be connected to the 12.5 watt tap.

In any speaker installation, the total power of the speaker load **MUST NOT EXCEED** the power rating of the amplifier. In the system in Figure 4, the power of the speakers as connected is: phono, 28 watts; 8 ohm speakers, 24 watts; 70 volt speakers, 72 watts; walleTte, 2.8 watts for a total of 126.8 watts. This is slightly over the 125 watt rating of the amplifier which is permissible as long as the speaker rating does not exceed the amplifier rating by more than 5%. In any installation, it is advantageous to adjust the speaker load to approximate the rating of the amplifier so that optimum bass boost will be attained at low volume.

NOTE

WalleTte speakers are treated as 45 ohm extension speakers in Table 5. For convenience, the left channel speaker in the wallbox has been reversed in polarity.



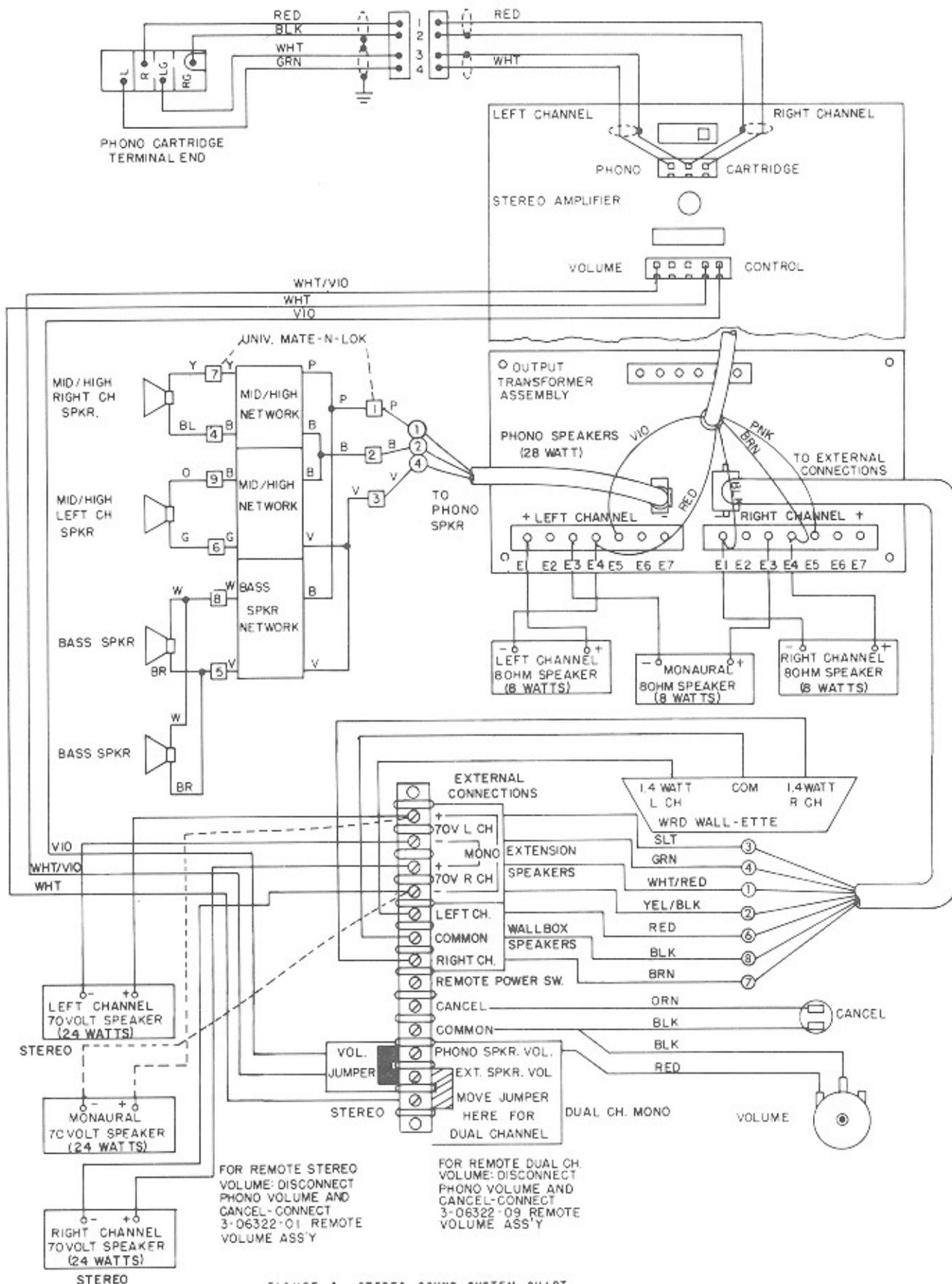


FIGURE 4 STEREO SOUND SYSTEM CHART FOR STEREO PHONOGRAPH, EXTENSION SPEAKERS & WALLETT SPEAKERS

PHONOGRAPHER SPEAKER POWER CONNECTION CHART

PHONO SPEAKER POWER LEVEL (TOTAL WATTS)	PHONO SPEAKERS		POWER FOR EXTENSION SPEAKERS	
	LEFT CHANNEL	RIGHT CHANNEL	WATTS PER CHANNEL	TOTAL WATTS BOTH CHANNELS
	VIOLET LEAD	PINK LEAD		
64	E6	E6	31	62
28	E5	E5	49	98
16	E4	E4	55	110
4	E3	E3	61	122
1	E2	E2	62	124
BLACK LEAD TO E1 (COMMON) FOR ALL ABOVE POWER LEVELS	<i>CAUTION: TOTAL POWER RATING OF LOAD MUST NOT EXCEED 65 WATTS PER CHANNEL OR 130 WATTS TOTAL FOR THE 125 WATT AMPLIFIER.</i>			

TABLE 3 PHONOGRAPHER SPEAKER POWER

AMPLIFIER FULL POWER OUTPUT VOLTAGES
(PER CHANNEL)

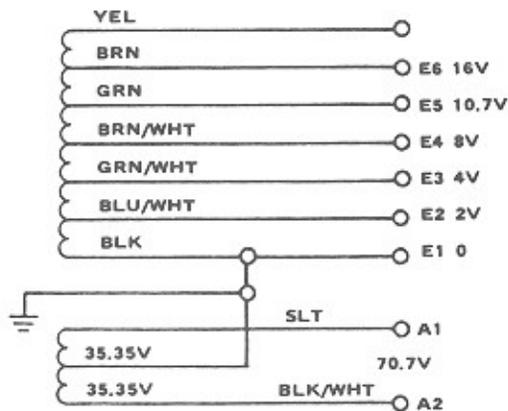


TABLE 4 AMPLIFIER OUTPUT

STEREO

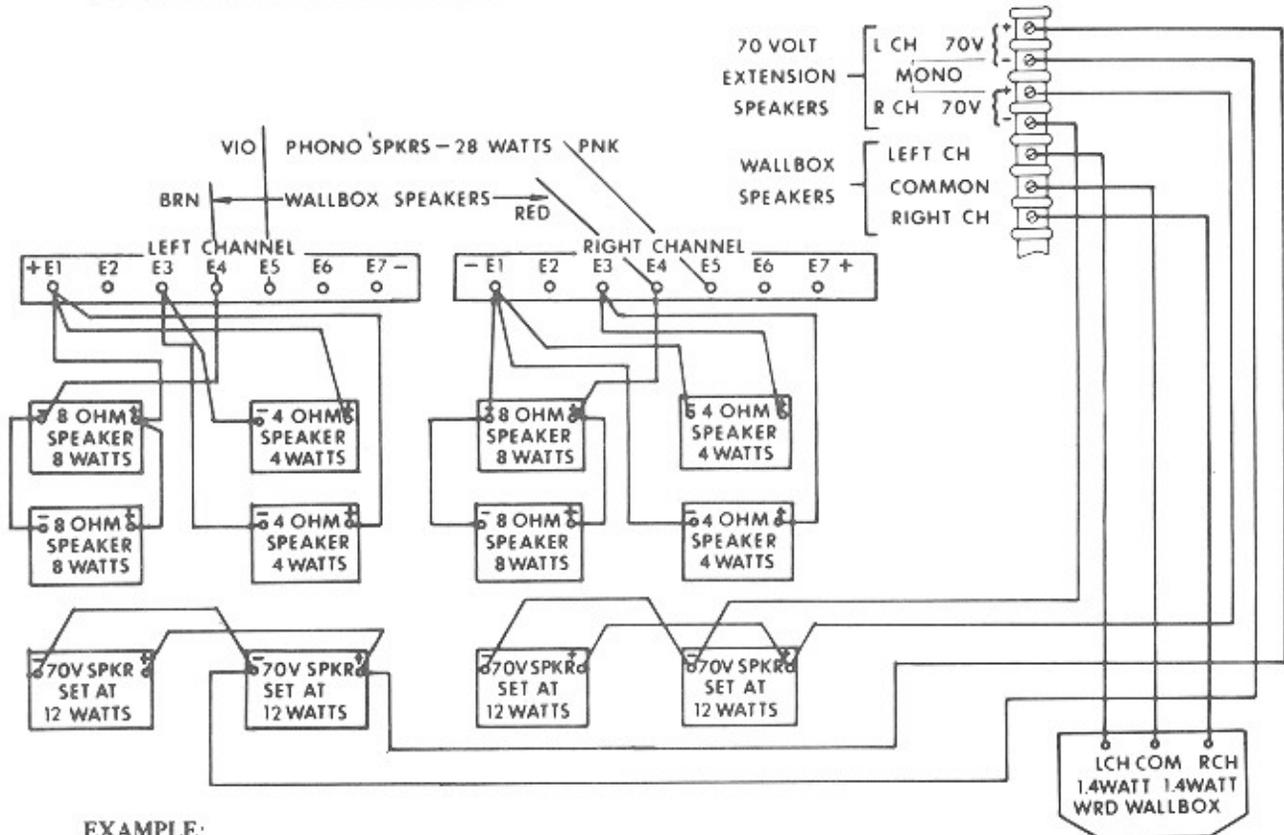
TABLE 5

EXTENSION SPEAKER CONNECTIONS

OUTPUT TERMINALS	WATTS PER SPEAKER			
	8 OHM SPEAKERS	4 OHM SPEAKERS	45 OHM WALLBOX	70.7V CONSTANT VOLTAGE SPEAKERS
E1-E2	0.5	1	0.35	DETERMINED BY POWER SETTING AT EXTENSION SPKR
E4-E5	0.9	1.75		
E1-E3	2	4		
E2-E4	4.5	9		
E1-E4	8	16	1.4(NORM)	
E1-E5	14	28	5	
E2-E6	24			
A1-A2				

SPEAKERS CONNECTED TO EITHER CHANNEL USED IN PAIRS FOR STEREO EXTENSION OF SOUND.

CAUTION: TOTAL POWER RATING OF LOAD MUST NOT EXCEED 65 WATTS PER CHANNEL OR 130 WATTS TOTAL FOR 125W AMPLIFIER.



EXAMPLE:

NOTE:

1. Left channel has reversed polarity for low impedance speakers. See page 17.
2. Each 4 OHM speaker is connected directly to terminal strip. See page 17.
3. Add Wattages:

Left Channel:	8 + 8 + 4 + 4 + 12 + 12 + 1.4	=	49.4 Watts
Right Channel:	8 + 8 + 4 + 4 + 12 + 12 + 1.4	=	49.4 Watts
Phonograph (E5-E6)		=	28 Watts
TOTAL		=	126.8 Watts

4. For speaker impedances not listed in Table 5, use Table 4 and use the impedance method ($Watts = E^2/R$).

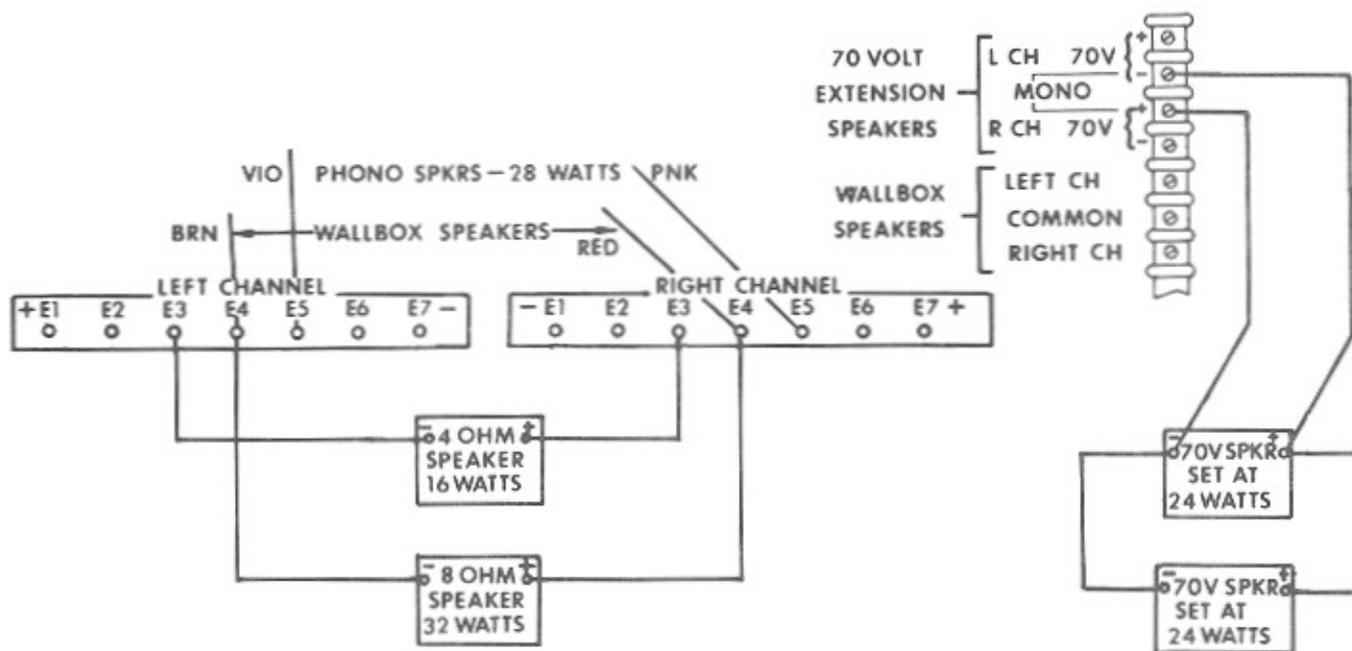
MONAURAL

EXTENSION SPEAKER CONNECTIONS

OUTPUT TERMINALS	WATTS PER SPEAKER			WATTS PER CHANNEL		
	8 OHM SPEAKERS	4 OHM SPEAKERS	70.7 VOLT CONSTANT VOLTAGE SPEAKERS	8 OHM SPEAKERS	4 OHM SPEAKERS	70.7 VOLT CONSTANT VOLTAGE SPEAKERS
E2-E2	2	4		1	2	
E3-E3	8	16		4	8	
E4-E4	32			16		
MONO 70VOLTS	POWER SETTING AT EXTENSION SPEAKER			1/2 OF POWER SETTING AT EXTENSION SPEAKER		

TABLE 6

SPEAKERS CONNECTED ACROSS BOTH CHANNELS- FOR MONAURAL EXTENSION OF SOUND.



EXAMPLE:

NOTES:

- Add Wattages:
 Extension Speakers: $16 + 32 + 24 + 24 = 96$ Watts
 Phonograph (E5 - E5) 28 Watts
TOTAL = 124 Watts

- For speaker impedances not listed in Table 6, use Table 4 and use the impedance method ($\text{Watts} = E^2/R$).

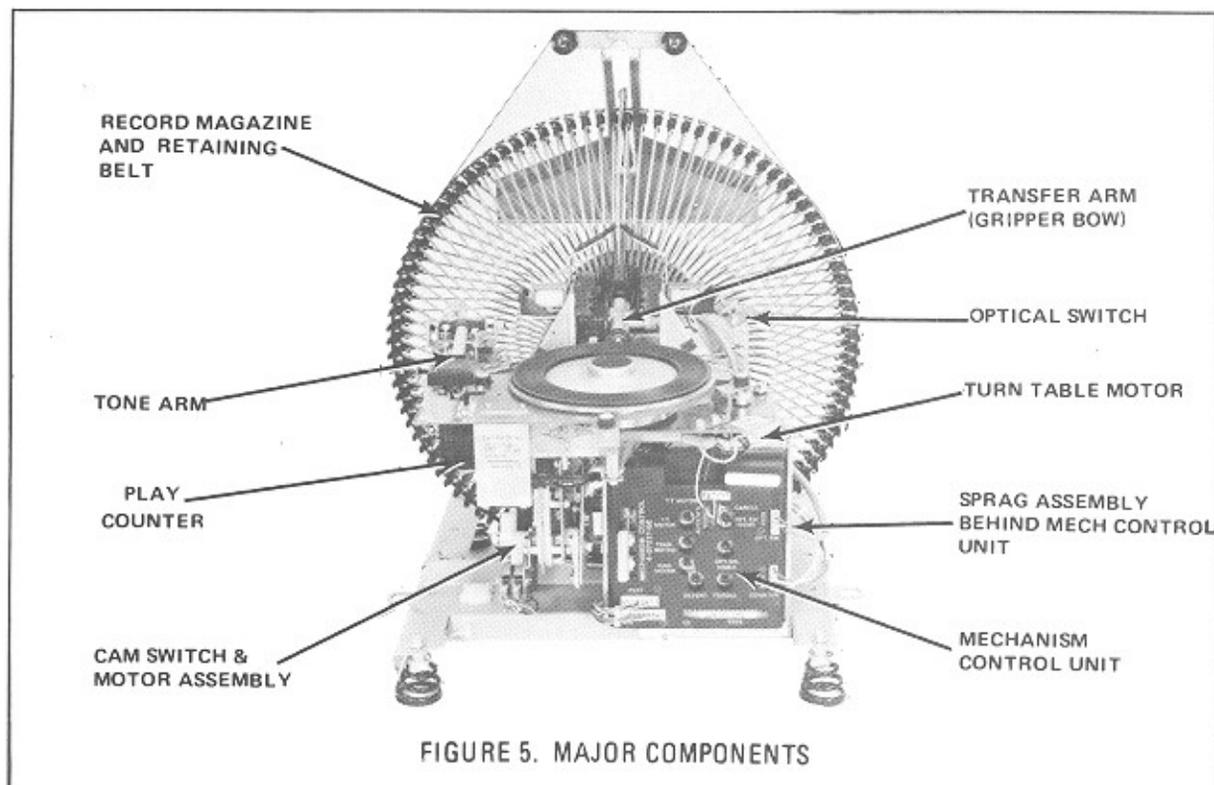


FIGURE 5. MAJOR COMPONENTS

RECORD CHANGER-MECHANISM

INTRODUCTION

This section contains preventive maintenance procedures, including cleaning and lubrication instructions. A description of record changer operation is included along with complete adjustment instructions.

Cleaning and lubrication procedures should be performed at regular intervals specified, while adjustments should be made only when necessary.

PREVENTIVE MAINTENANCE

Cleaning

In addition to cleaning the cabinet exterior each time the location is visited, clean the interior every three to six months, as required. Keeping the cabinet interior clean reduces dust, resulting in increased record and component life. Always clean the phonograph cabinet prior to lubrication.

1. Use a vacuum cleaner, if available to remove heavy dust deposits.

WARNING

USE SOLVENTS IN A WELL-VENTILATED AREA ONLY; DO NOT USE SOLVENTS ON ANY TYPE OF PLASTIC PARTS.

2. Use a clean, lint free cloth saturated in denatured alcohol to clean mechanical parts.
3. Clean electrical parts using a clean, dry cloth or camel's hair brush.

Five Year Lubrication

Your phonograph requires lubrication only after five years. To maintain smooth, trouble-free operation, lubricate the record changer mechanism as shown.

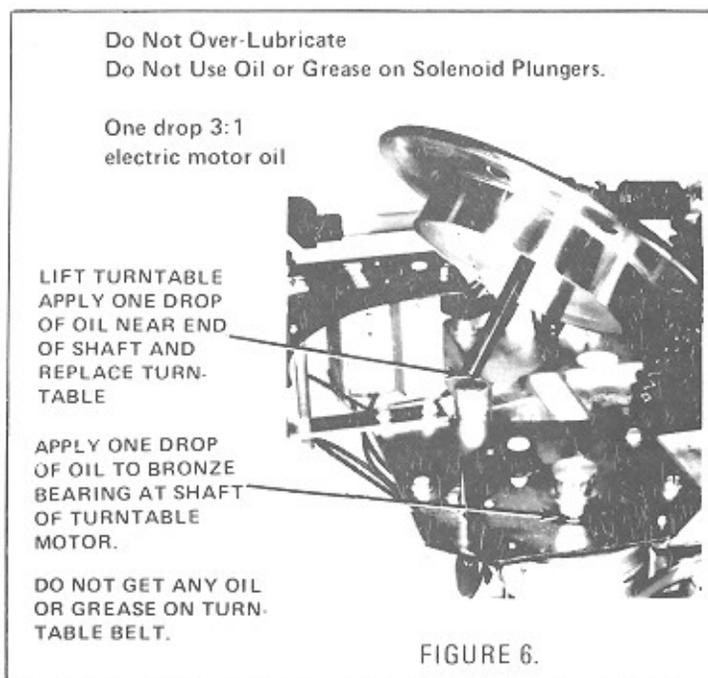


FIGURE 6.

RECORD CHANGER MECHANISM OPERATION

The following paragraphs contain a brief explanation of the operation of the record mechanism. The mechanism holds 100 records and plays selections on command from the selection system. Identification and location of each major component is shown in figure 5. The purpose and description of each component is explained in the following text.

Magazine, Belt and Transfer Arm. The record magazine stores 100 7-inch 33 or 45 rpm records in a circular cage. A seamless belt around the cage keeps records in position. The rollers permit the transfer arm to clear the belt when removing and returning records to the magazine and also maintain belt tension.

Play Counter. The play counter is mounted to the left of the turntable and accumulates the total number of plays on the phonograph.

Money Counter. The Money Counter is mounted to the left side of the turntable and it registers the total money deposited in the phonograph.

Optical Switch. The Optical Switch is in front of the record magazine and straddles the magazine gear. There are two sensors in the switch. One sensor indicates when record "99" is in gripping position. This sensor is called the home sensor. The other sensor counts the number of gear teeth that pass by during scan to tell which record is in gripping position. This sensor is called the index sensor.

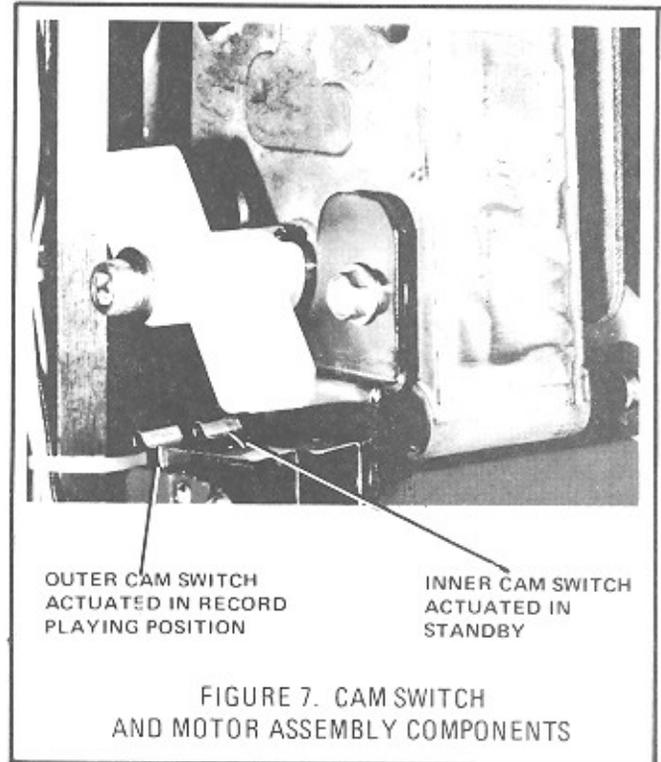
Mechanism Control Unit. This solid state switching unit controls the scan, transfer and toggle shift function.

Sprag Assembly. This assembly operates the record magazine in position. It is located at the center of the record magazine and below the record transfer arm. The magazine motor rotates the record magazine. The solenoid operated sprag assembly locks the magazine in place.

Tone Arm Assembly. The tone arm assembly plays records after they are positioned on the turntable by the record transfer arm. The tone arm contains a stereo cartridge with a diamond stylus that is designed to track at three to four grams pressure. The stylus plugs into the cartridge for easy replacement. Four receptacles in the tone arm assembly mate with a plug to connect the cartridge to the pre-amplifier via 4-conductor shielded cable.

Turntable Motor. The turntable motor is a constant speed 300 RPM (at 60 Hz.) synchronous motor. The turntable is driven with a belt to obtain the proper turntable speed with minimum wow and flutter. For 50 Hz. locations, the motor pulley must be changed and a wiring change must be made on the motor terminal strip. (See Section 5.)

Automix. (Optional) Automix operation enables the phonograph to play both 33 and 45 RPM records in any order. Automix components consist of a speed shift coil, a hub shift coil and a trip wire and switch on the turntable hub.



Cam Switch and Motor Assembly. (See Figure 7).

The cam switch and motor assembly consists of the transfer motor, cam and two cam switches. A nylon cam operates the cam switches.

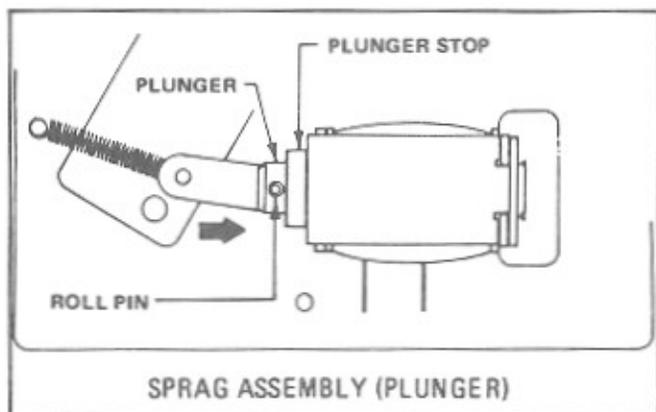
RECORD CHANGER ADJUSTMENTS

I. SPRAG ASSEMBLY ADJUSTMENTS

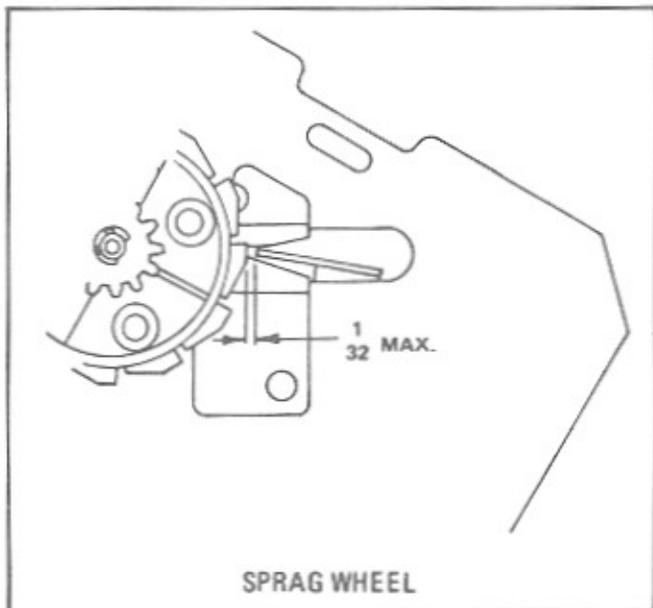
The following steps must be used to make sprag assembly adjustments.

WARNING
TURN POWER OFF.

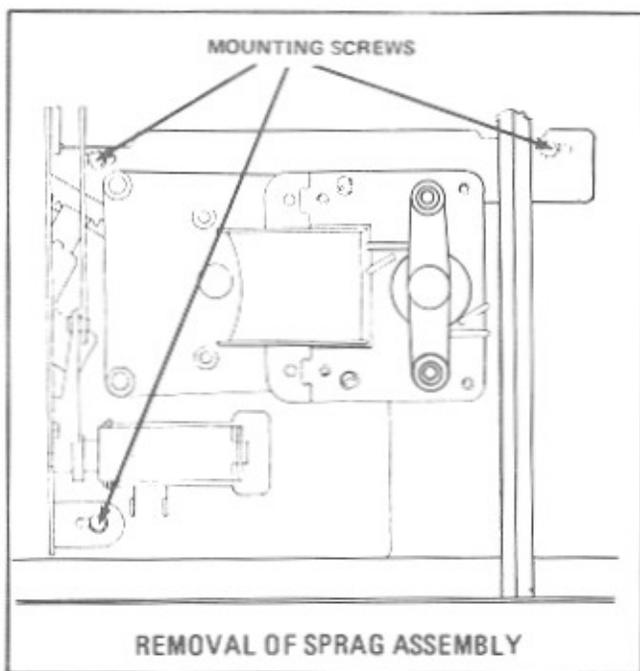
1. Depress solenoid plunger until the roll pin bottoms on plunger stop. (Actuate by pressing on plunger.)



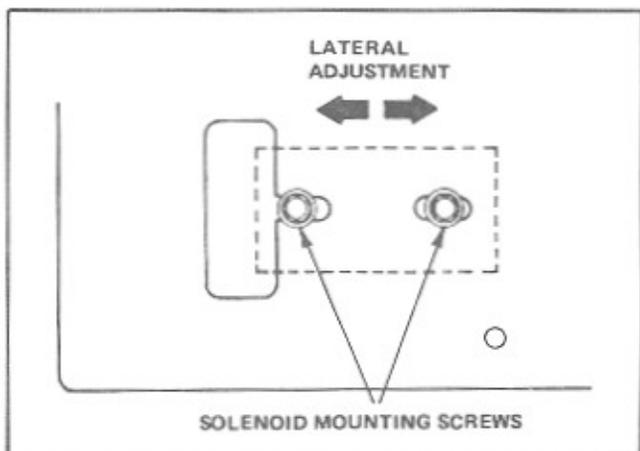
2. Rotate the record magazine and note the clearance between the sprag lever and the sprag wheel located on the back side of the sprag plate assembly. The sprag lever must not touch the sprag wheel and the clearance must not be greater than 1/32 inch. If corrections are required it will be necessary to remove the sprag assembly.



3. To remove sprag assembly, first remove mech control board mounting plate (3 screws). Disconnect wires to the solenoid and motor, remove the three mounting screws and slide the assembly out of the right side of the mechanism.



4. Loosen the solenoid mounting screws and with the roll pin against the plunger stop, position the solenoid so that there is a .015 to .025 inch gap between the sprag lever and the highest point on the sprag wheel.



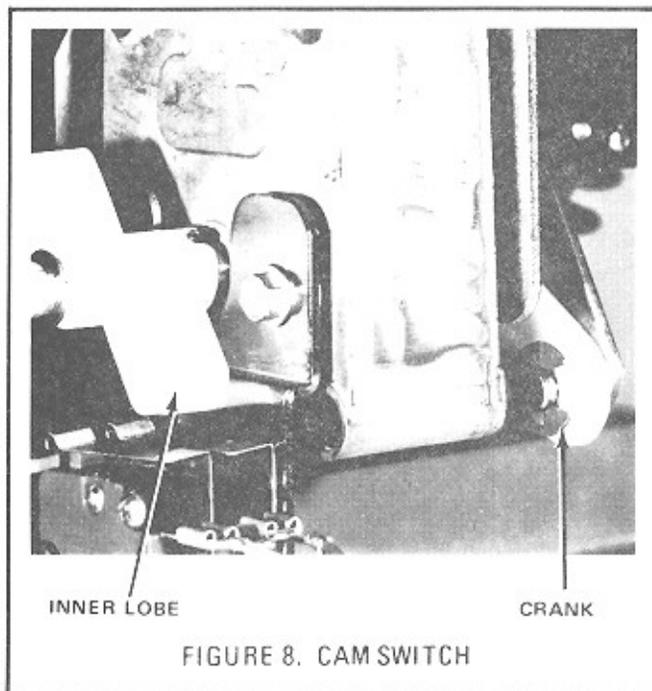
5. Tighten solenoid mounting screws.
6. Replace sprag assembly in mechanism with (3) mounting screws and replace black and white-blue wires to the solenoid and the yellow and yellow-black wires to the magazine motor.

See paragraph VI for instructions for aligning the record magazine and readjusting the optical switch.

II. CAM SWITCH ADJUSTMENTS

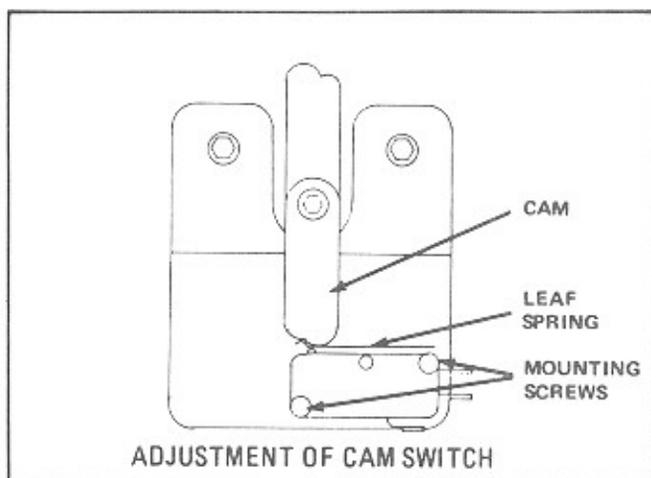
If it is necessary to remove the switch cam from the transfer motor, the following procedure must be followed to ensure that the cam is properly located and not 180° out of position.

1. Locate the inner lobe so that it is pointing in the same direction as the crank. Turn cam so that neither cam lobe is on a switch before removing or installing cam. (See Figure 8.)



Check and Adjust Cam Switch Operation

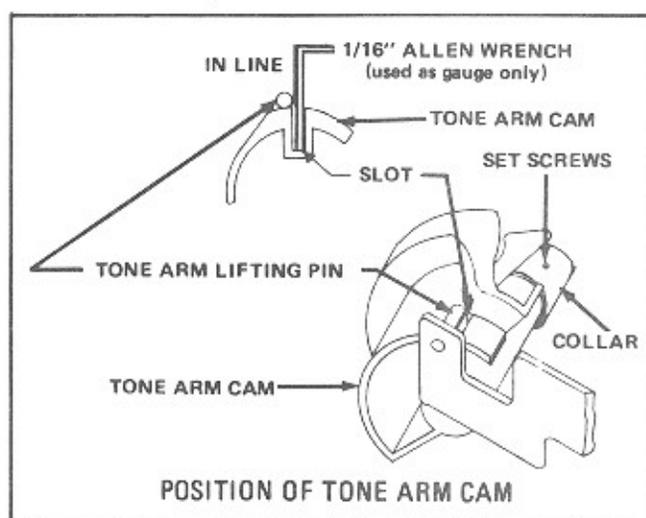
1. Check that the plastic cam, leaf spring, and switch plunger just touch as shown below.
2. To adjust switches, loosen mounting screw under plunger end and move switch housing as required.



3. Tighten mounting screw and recheck operation.

III. TONE ARM CAM ADJUSTMENTS

1. Lift tone arm and turn it clockwise so the pins are disengaged from the cam.
2. With gripper bow in scan position over magazine (transfer motor crank in maximum down position) loosen one Allen head set screw in collar.
3. Using a 5/32 inch Allen wrench in end of transfer motor shaft, turn motor shaft clockwise until gripper bow is in playing position (transfer motor crank arm in maximum up position).
4. Loosen the other Allen head set screw in collar.
5. Position tone arm cam so that the outside diameter of the tone arm lifting pin is in line with the edge of the slot in the cam, as shown below.



6. Tighten Allen head set screws and replace tone arm.

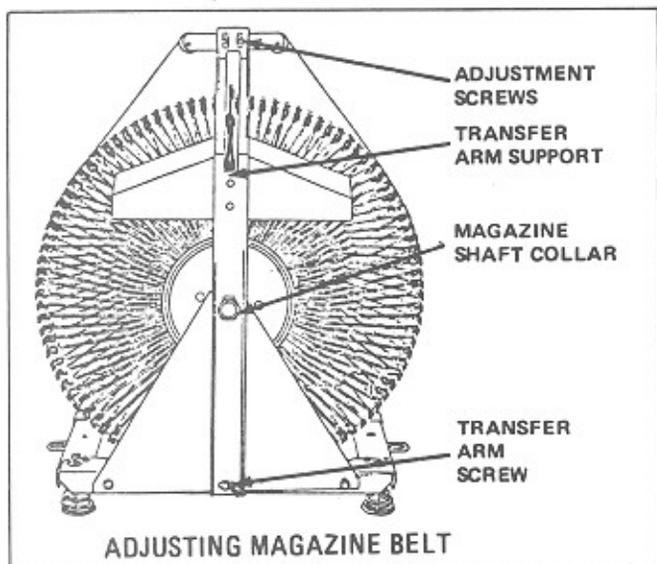
IV. RECORD MAGAZINE TRANSFER ARM SUPPORT ADJUSTMENT

Eliminate Magazine End Play and Center Transfer Arm Support.

1. Loosen set screws in rear Magazine Shaft collar. Push collar on the Magazine Shaft to eliminate end play and tighten screws.
2. Loosen screw that holds transfer arm support to mechanism frame.
3. Adjust transfer arm support so transfer arm is centered in opening.
4. Tighten mechanism frame to transfer arm support screw.

V. MAGAZINE BELT ADJUSTMENT

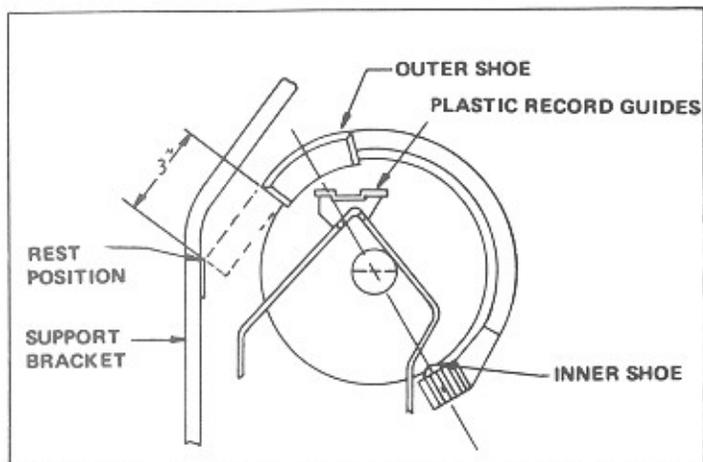
1. Loosen two adjustment screws shown.



2. Raise bracket to tighten belt around magazine.
3. Check that belt rides evenly in center of belt guides, all the way around the magazine.
4. Tighten 2 adjustment screws.

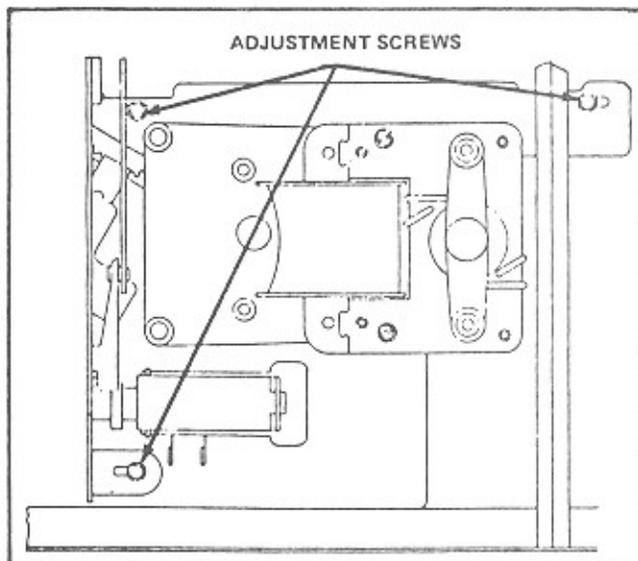
VI. ALIGNING MAGAZINE STOPPING POSITION WITH TRANSFER ARM.

1. For this adjustment use a record in good condition without warp or dish. Place this record in any position in the record magazine and rotate the magazine until this record is in the top position. Allow magazine sprag lever to engage and lock magazine in this position.



2. Using a 5/32 inch allen wrench in end of transfer motor shaft, turn motor shaft clockwise until gripper bow lifts record out of magazine, and outer shoe is approximately 3 inches from its rest position on the back support.

In this position a center line from the inner shoe thru the center of the outer shoe will pass thru the back of the plastic record guide on the magazine.

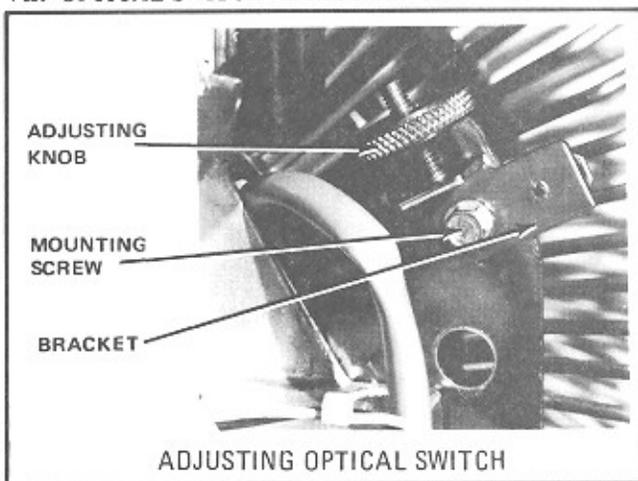


3. With the record and gripper bow in this lifted position rock the magazine to the left and right and make sure the plastic magazine record guides do not come in contact with the record on either side.

If the guide makes contact with the record on one side or magazine space does not center with the record, the following adjustment to the magazine will be necessary.

4. Loosen three screws in magazine motor mounting plate.
5. With sprag wheel locked, move magazine until record is centered between belt guides. (Adjustment screws will be approximately centered in slots).
6. Tighten three screws in magazine motor mounting plate securely.
7. Whenever the record magazine is adjusted, the optical switch must be adjusted as shown in the following adjustment procedure.

VII. OPTICAL SWITCH ADJUSTMENTS



1. Release magazine sprag lever from sprag wheel and rotate record magazine until selection 99 is at the top center. Engage the sprag lever locking the magazine in place.

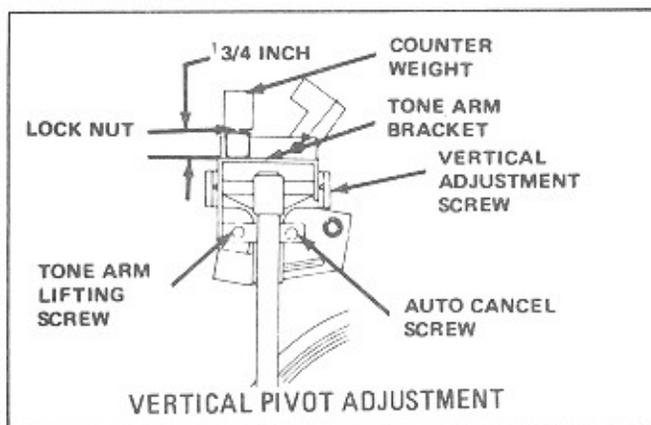
2. Loosen optical switch bracket mounting screw, turn adjusting knob counter clockwise to top of its' travel, and move bracket to the most downward position. Snug optical switch bracket mounting screw (do not tighten).
3. Rotate record magazine counterclockwise to remove gear backlash, hold in this position.
4. Turn adjusting knob clockwise, moving the bracket upward and watch both the index and home lamps on the mechanism control unit.
5. When both lamps light, continue to move the bracket past this position until the index lamp JUST goes out. The home lamp will stay on. Tighten the mounting screw.
6. With the sprag lever engaged rotate the record magazine clockwise and counterclockwise by hand taking up gear backlash in both directions. The index lamp should stay off, and the home lamp should stay on.
7. Release magazine sprag lever from the sprag wheel and rotate record magazine to several other positions repeating step six. The index lamp should stay off. The home lamp will not be on.

VII. TONE ARM ADJUSTMENTS

1. Adjust Vertical Pivot

- a. Adjust tone arm pivot screw so that tone arm pivot is loose enough to move free vertically or a distance of two inches above turntable.
- b. Check that tone arm moves less than 1/32 inch from side to side at stylus.

2. Set Stylus Force.



- a. The distance between the counter weight and the tone arm bracket should be 3/4 inch for 3-1/2 grams stylus force.
- b. If distance is not correct loosen lock nut, adjust counter weight and tighten lock nut.

3. Set Stylus Clearance.

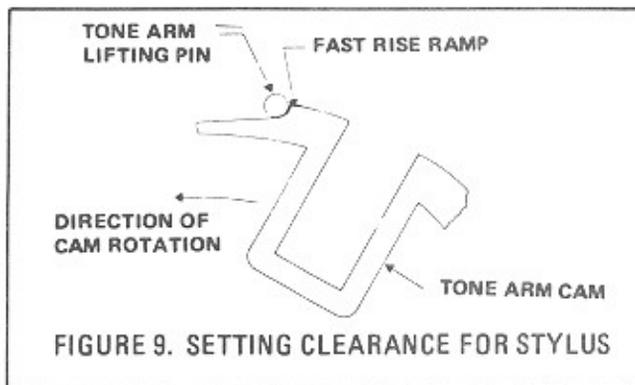
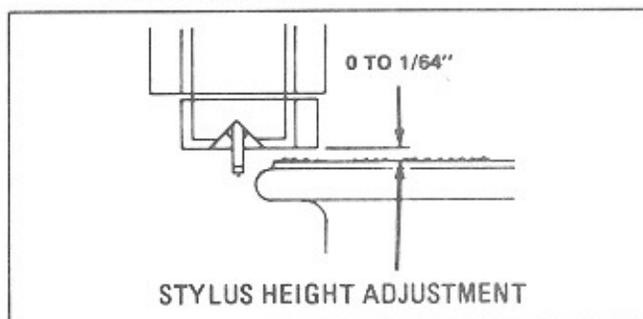


FIGURE 9. SETTING CLEARANCE FOR STYLUS

Using a 5/32 inch allen wrench in the end of the transfer motor shaft turn motor shaft clockwise until gripper bow has placed a record on the turntable. Push down on the tone arm lifting pin (See Figure 9) and continue to turn motor shaft to swing tone arm into the set down position. You will be able to feel the fast rise ramp of the cam contact the tone arm pin. At this point, release the pressure on the lifting pin and adjust the tone arm lifting screw so that the stylus just touches the record.

4. Set Stylus Height.

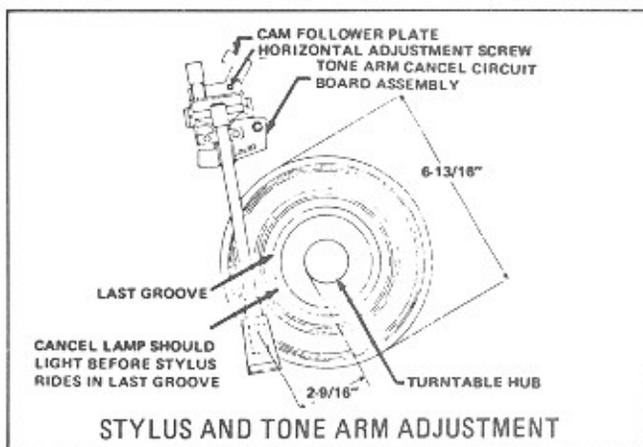
- a. Operate transfer assembly to position tone arm over turntable rim.



- b. Turn auto cancel screw until stylus holder is flush to 1/64 above turntable pad surface with tone arm in play position.

5. Set Stylus Setdown Position and Tone Arm Cutoff Switch.

- a. Place undersize (6-25/32 inch diameter) record on turntable.

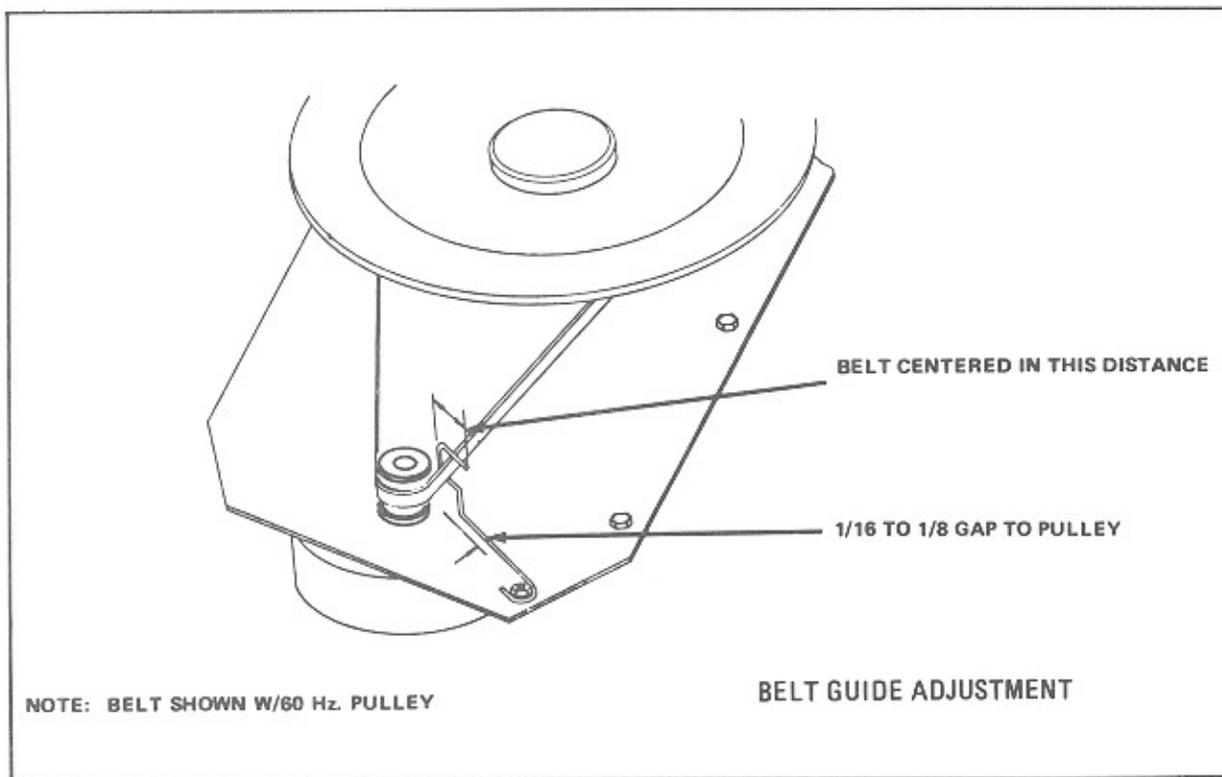


STYLUS AND TONE ARM ADJUSTMENT

- b. Operate transfer assembly to bring tone arm to play position.
 - c. Loosen horizontal adjustment screw.
 - d. While holding cam follower plate against tone arm cam, move tone arm, as required, until stylus is 2-9/16 inches from the edge of the turntable hub.
 - e. Tighten horizontal adjustment screw and check adjustment.
6. Adjust Tone Arm Cutoff Switch.
- a. Disconnect microcomputer harness from mechanism control board (19 pin connector). (To prevent mechanism from cancelling.)
 - b. Loosen mounting screw on tone arm cancel circuit board assembly.
- c. Position tone arm cancel board assembly, as required, until reed switch is closed, as indicated by cancel lamp in mechanism control unit. This should happen before stylus enters "closed" record groove.

BELT GUIDE ADJUSTMENT

1. Loosen nut that fastens belt guide.
2. Adjust as shown below.
3. Tighten nut.



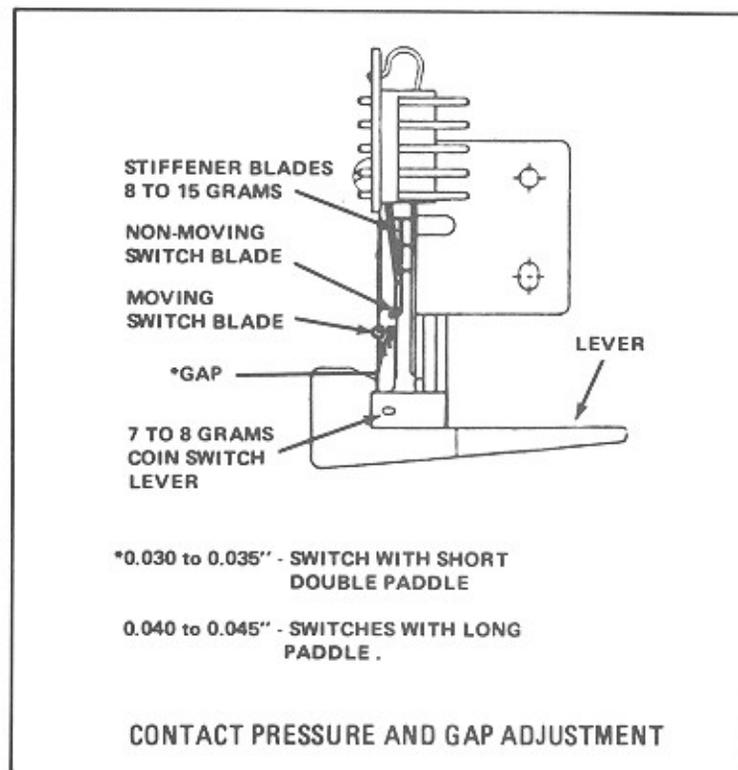
COIN SWITCH ADJUSTMENTS

OPERATION CHECK

1. Hold plastic coin switch lever in normal position and drop a coin through slug rejector.
2. When the coin comes to rest on the lever, release the lever slowly.
3. Check that the weight of the coin operates the lever enough to close the coin switch and allow the coin to fall free.
4. Repeat steps 1, 2 and 3 for other three levers.

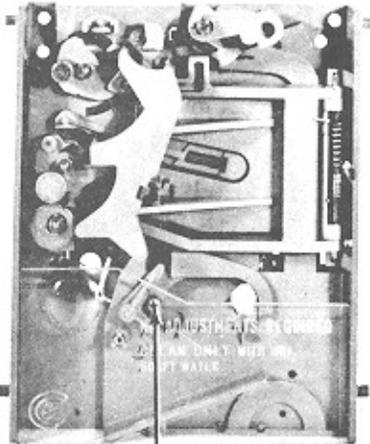
CONTACT PRESSURE AND GAP

1. Check that each moving switch blade pushes against its lever with 7 to 8 grams force to hold lever against cushion. To adjust pressure, bend the blade near its mounting point.
2. Check that each non-moving blade pushes against its stiffener blade with 8 to 15 grams force. To adjust pressure, bend the contact blade near its mounting point.
3. Check that contact gap at switch with short double paddle is 0.030 to 0.035. Check that contact gap for long paddle switches is 0.040 to 0.045 inch.



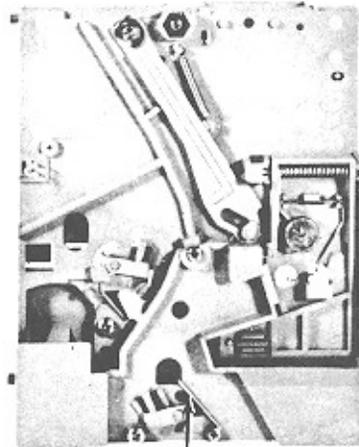
**COIN ACCEPTORS
3 COIN**

FRONT VIEW



REMOVE COVER AND DRIVE
No. 6-32 SCREW INTO BOSS AS
SHOWN TO REJECT NICKELS

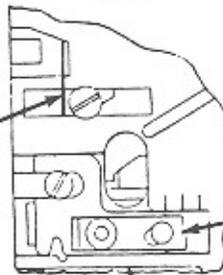
BACK VIEW



TO REJECT DIMES ADD COINCO
No. 903-915 BLOCK OUT WIRE

**COIN ACCEPTORS
4 COIN**

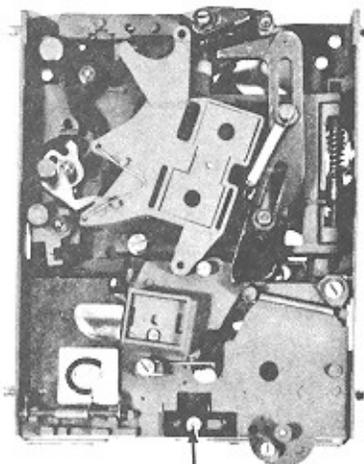
LINE UP EDGE OF
DEFLECTOR WITH
THIS LINE



TO IMPROVE \$ SLUG REJECTION
ADJUST AS SHOWN

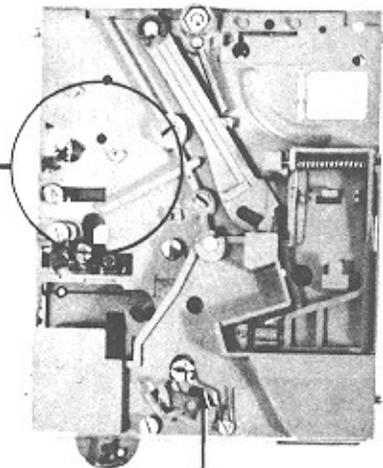
LINE SEPARATOR AS SHOWN

FRONT VIEW



MOVE THIS BRACKET TO RIGHT
TO REJECT NICKELS (OR JUST
FAR ENOUGH TO LEFT TO
ACCEPT NICKELS)

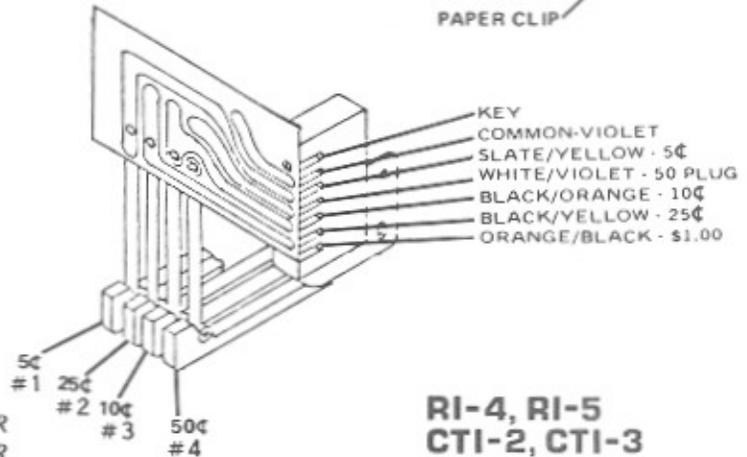
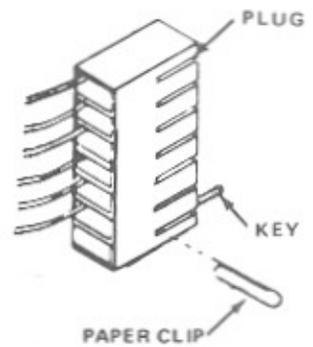
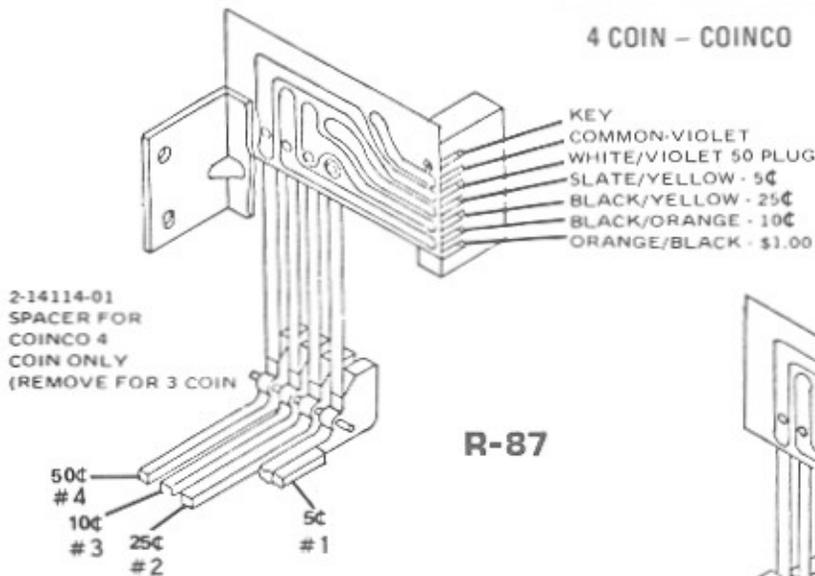
BACK VIEW



TO REJECT DIMES ADD COINCO
No. 903915 BLOCK OUT WIRE

COIN SWITCH WIRING

4 COIN - COINCO



NOTE

SWITCH W/V AND O/B WIRES DEPENDING ON 50¢ OR 5 COIN. SWITCH WIRE COLORS AS REQUIRED FOR OTHER REJECTORS. MAINTAIN COLOR - VS - COIN VALUE.

*MM = MONEY METER COUNTER RATIO

WIRING FOR 4 COIN (.05, .10, .25, .50)

COUNTRY	COIN DENOMINATION TO ACTUATE SWITCH								
	SWITCH #1	WIRE COLOR	SWITCH #2	WIRE COLOR	SWITCH #3	WIRE COLOR	SWITCH #4	WIRE COLOR	MM*
AUSTRALIA					10¢	B/O	20¢	B/Y	1
AUSTRIA			5S	W/V	1S	B/O	10S	O/B	10
BELGIUM			25¢	B/O	10¢	S/Y	5Fr	S/Y	100
COLUMBIA			1 PESO	S/Y	2 PESO	B/O	5 PESO	B/Y	1
DENMARK			1Kr	B/O			5Kr	W/V	10
ECUADOR			1Sc	B/O					10
EL SALVADOR			5¢	S/Y	25¢	B/Y	10¢	B/O	1
ENGLAND			10P	B/O			50P	W/V	100
FINLAND			1Mk	B/O			50P	W/V	10
FRANCE			1Fr	B/O			5Fr	W/V	10
GERMANY			1MK	B/O	50 Pfg	S/Y	2MK	B/Y	10
HOLLAND			25¢	B/Y			1G	O/B	1
HONDURAS			50¢	B/Y	20¢	B/O	10¢	S/Y	2
ITALY			200 L	B/Y			100 L	B/O	1,000
NICARAGUA			50¢	W/Y	25¢	B/Y	1COR	O/B	1
NOR. SWED.			1Kr	B/O			5Kr	W/V	10
SPAIN			5 PTAS	S/Y			25 PTAS	B/Y	100
SWISS			1Fr	B/O	50 Rp	S/Y	2 Fr	B/Y	10
U.S.	5¢	S/Y	25¢	B/Y	10¢	B/O	\$1	O/B	1
VENEZUELA	1 REAL	B/O	1 BOLIVAR	B/Y	1 MEDIO	S/Y	2 BOLIVAR	W/V	4

SECTION 3- ROUTINE SERVICE

INTRODUCTION

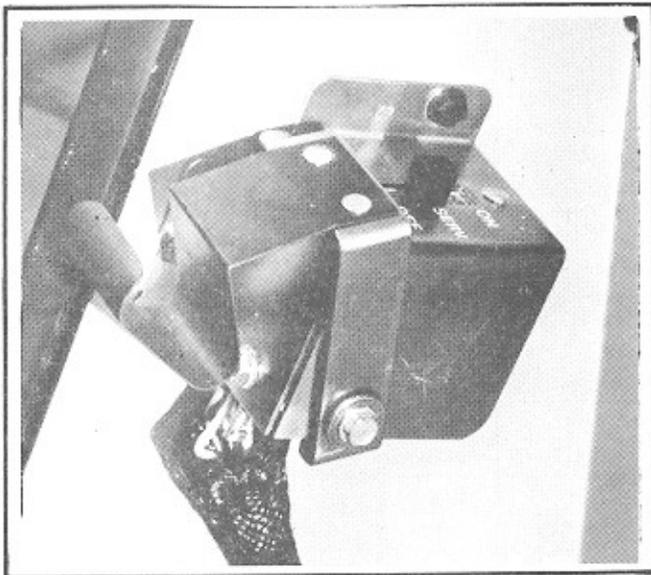
This section contains instructions to enable the route man to perform routine service tasks such as changing records, making collections, and cabinet cleaning.

CHANGING RECORDS

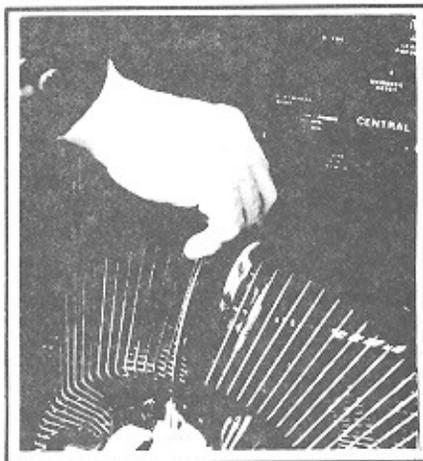
The phonograph will play 45 RPM records. With the addition of Automix Kit, both 45 RPM and 33 RPM records can be played interchangeably. (Order Kit No. 2-66681-06.)

Loads as follows:

1. Unlock and open door.
2. Move Switch to Service (Located on Control Console).



3. Use scan button to position magazine slot to the left or right of the transfer arm.
4. Install record in magazine as shown.



5. Move Service Switch to ON before attempting to make selection.

NOTE

When changing records – make sure that magazine is balanced.

CHANGING TITLE STRIPS

Each time new records are installed, corresponding title strips must also be installed. Install the title strips as follows:

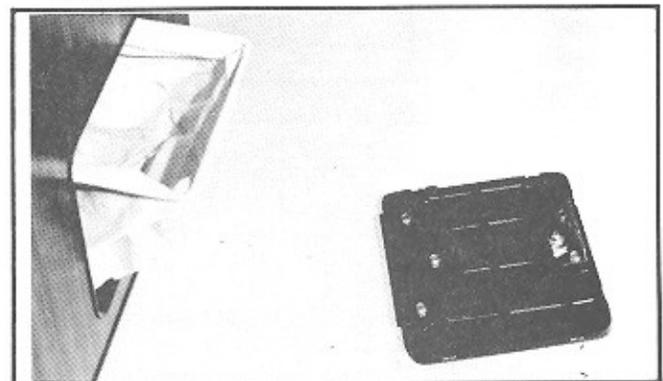
1. Open door and swing title panel down as shown below.
2. Install new title strips by sliding the strips into the open right ends of the racks as shown.



3. Check to make sure that each title strip corresponds to the correct record.

REMOVING CASH BAG

1. Unlock cash bag door and pull door away from cabinet.



2. Slide cash bag straight out on its runners.

READING AND RESETTING MEMOREC

The Memorec keeps a tally of the number of times each record is selected and the total number of selections made. This unit registers selections only; not plays. To read the total number of plays, check the total play counter on the left side of the record changer mechanism. Read and reset the Memorec as follows:

1. Set selector switch to LEAST POPULAR position. Set console ON-SERVICE-OFF switch to SERVICE. The least popular record selection will appear on the left two digits of the display window under RECORD NUMBER. The number of times it was selected will appear on the right two digits under TIMES SELECTED.
2. Push and release the pushbutton to read the next least popular record. If there are two records with the same number of selections, the lower record number will be displayed first; then the higher number. After all selections have been read, the display will show hyphens.
3. To read the most popular selections, set selector switch to MOST POPULAR position. Push and release the pushbutton to read the most popular records.
4. The readout of least popular or most popular records can be reset to the beginning at any time by moving the Most/Least switch to the opposite position, and then back to its original position.
5. Press and hold the pushbutton to read the total selections since the unit was last reset.
6. Press the "Most Popular Record" switch on the selector keyboard. The number of times the "Most Popular Record" switch was used to make a selection will appear on the four digit display.
7. Press the "Manual Credit" button on the lower left corner of the "Central Control Computer". The total amount of money deposited since the last reset will appear on the four digit display. The count will be the number of nickels deposited. The actual amount of money will be .05 times the count.
8. Punch in the number of any tune using the selector keyboard. The number you punch in will appear on the three digit display. The number of times this tune has been selected will appear on the two right most digits of the four digit display.
9. Using the eraser end of a pencil or a similar tool, push the recessed RESET button to set the computer count back to zero.

CAUTION

*THIS WILL ZERO THE COMPUTER
SO MAKE SURE THAT YOU HAVE
COMPLETED YOUR READINGS.*

REPLACING LAMPS

To maintain the attractive appearance of the phonograph, replace burned-out lamps immediately.

To Remove Fluorescent Lamps:

1. Unlock and open door. Fluorescent lamps and starters are conveniently located.
2. Remove Fluorescent tube by rotating 1/4 turn, and swing lamp out.
3. Flashing lamps can be removed by rotating 1/8 turn and pulling straight out.

CLEANING

To Clean Coinco Acceptors:

1. All plastic 3 coin acceptor.

Submerge in hot soapy water, shake off excess water and let dry. Needs no lubrication.

2. Plastic and metal 4 coin acceptor.

Place in hot soapy water for about 10 minutes. Rinse in hot water and dry with air or lint free cloth. Clean stubborn areas with brush. Transfer cradle pins and bushings may be lubricated with silicone.

WARNING

NEVER USE GREASE OR OIL!

CABINET CLEANING

ACTION REQUIRED	PROCEDURE
1. Clean Glass	<ol style="list-style-type: none">a. Clean all glass with a paper towel and a non-abrasive glass cleaner such as Windex.b. Dry with a clean, lint-free cloth.
2. Clean painted wood and metal surfaces	<ol style="list-style-type: none">a. Clean all painted wood and metal surfaces with mild soap and water. DO NOT USE SOLVENTS.b. Apply a good quality auto or furniture wax to protect the finish.
3. Clean chrome trim	<ol style="list-style-type: none">a. Use a damp or dry cloth to remove any dust or dirt.b. Use mild soap and water to remove stubborn deposits. Do not use strong detergents or abrasives of any kind.
4. Clean plastic trim	<ol style="list-style-type: none">a. Wipe all plastic surfaces with a damp or dry cloth only. DO NOT USE SOLVENTS.
5. Clean electrical components	<ol style="list-style-type: none">a. Clean all electrical components with a clean, dry, lint-free cloth or a soft bristled brush only.

INSTRUCTION FOR GLASS REPLACEMENT OR CLEANING

Cleaning not normally required. During refurbishment, you may want to clean the glass. The following procedure may be used.

1. Turn off power to the phonograph.
2. Open door.
3. Remove title rack.
4. Pivot selector panel down.
5. Unplug electrical connector from each end of the row of lights at the bottom of the door on the "Saphire 7" model.
6. Remove 13 screws (8 screws on the Saphire 7 model) which are along the bottom of the door and in-line with the door catches. Remove the center screws last to prevent bending of the catch bracket.
7. Remove catch brackets.
8. Loosen 4 recessed screws on each side of the door which are approximately 6½" apart.
9. Loosen 8 screws (6 recessed screws on Saphire 7 model) on the end of the window by the selector.
10. Lower the door until it is horizontal and have an assistant hold it there for the next step.
11. Slide the glass out of the bottom of the door. It may be helpful to reach through the opening left by the title rack to accomplish this. Make sure the

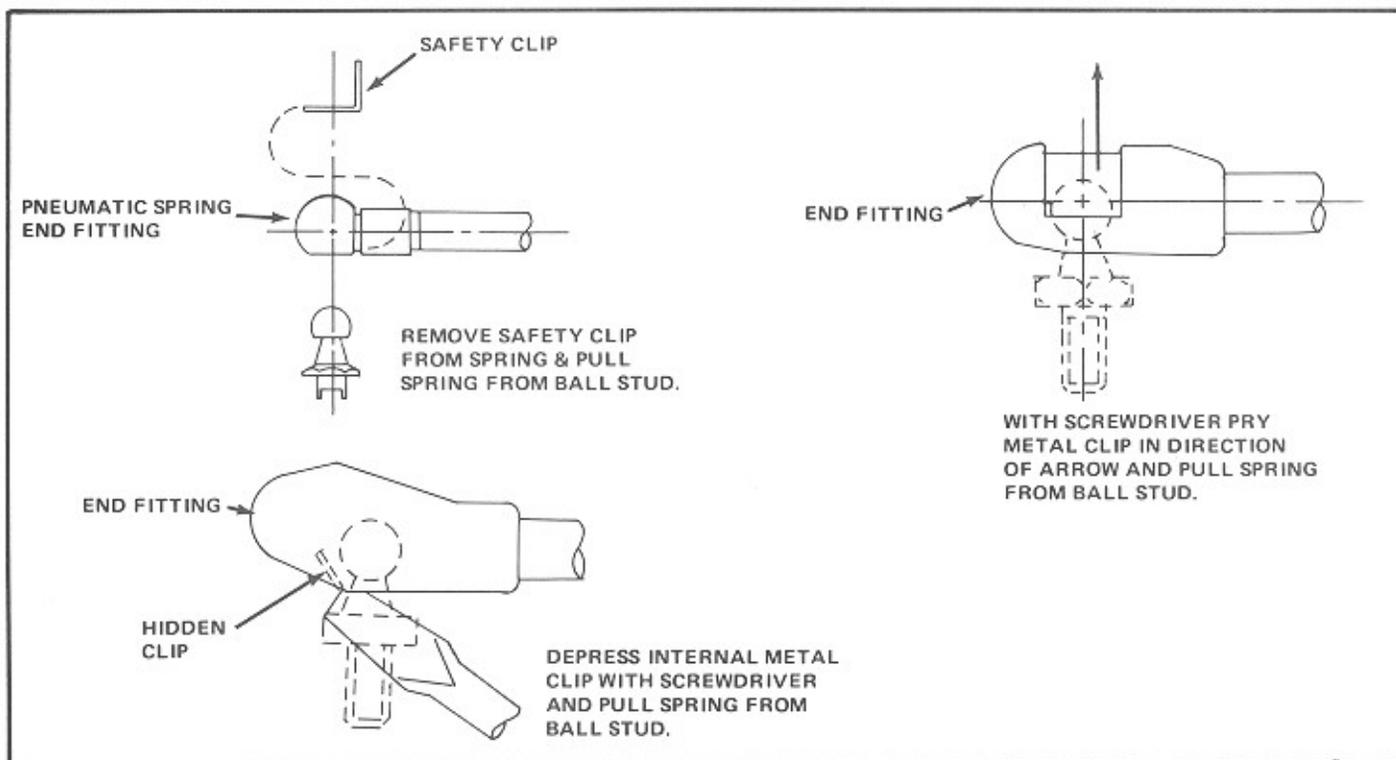
channel rubbers, cushioning the edge of the glass, are removed.

12. Clean the glass using normal glass cleaning method.
13. Apply channel rubber to glass.
14. Apply a small amount of transparent scotch tape to the channel rubbers at the top corners to hold the side channel rubber to the top channel rubber. This will help in sliding the glass in by not allowing the channel rubber to curl back or slide back.
15. Insert glass into door keeping hands off the area of the glass which can not be cleaned after assembly. On the "Saphire 7" model make sure that the mirror film is on the inside.
16. Install catch bracket making sure that the glass and channel rubber are in position. Use the screws which were removed in Step 6.
17. Tighten screws on the other three sides of window.
18. Connect the two connectors, close the selector panel and replace the title rack.

INSTRUCTIONS FOR REMOVING TOP DOOR PNEUMATIC SPRING

Proceed as follows:

1. Open Top Door.
2. Have an assistant hold door in open position.
3. Find picture of appropriate style spring end fitting below and follow instructions:



SECTION 4- TROUBLESHOOTING

INTRODUCTION

The phonograph incorporates several modules which plug in for rapid service. The block diagram (page 66) shows the modules and the wiring between them. It also shows wiring between modules and components (switches, motors, coils).

The most likely cause of phonograph problems are:

1. Continuous or intermittent opens in harness. The cause can be; the wiring, the terminal, or a bad wire to terminal crimp.
2. A defective module. A list is shown below.

It is important to troubleshoot logically so that effort is not wasted in removing and replacing the wrong parts. Most failures are caused by minor defects, such as loose connections or dirty contacts. Check the following before replacing any parts.

1. Check that all plugs are firmly seated.
2. Check that connector pins are not bent, broken or pushed through the back of the connector when mated.
3. Check that wires are not broken at connector pins.

CONTINUOUS FREE PLAY

In some cases, continuous free play operation is desirable. Set the phonograph to "free play" by positioning the "Test-Norm" switch, on the central control computer, to test. This gives continuous credit and selections may be made.

If automatic continuous music is desired set the playmaker switch on the central control computer to "continuous". This will keep the location in Music until repairs can be made.

PART NO.	DESCRIPTION	NOTES
6-08870-04	Central Control Computer (C.C.C.)	Module contains Circuit Board Ass'y - C.C.C. 6-08871-03
4-07221-02	Mechanism Control	Module contains Circuit Board Ass'y - Mech Control 6-08708-02
4-07706-01	Power Supply	
6-08878-04	Pricing Board	
4-07733-01	Digital Display	

TROUBLESHOOTING CHARTS

One of the best ways to isolate a problem is to determine the exact state of the phonograph when the failure occurs. This means recording the condition of digital display, status LED's, gripper bow, detent pawl, magazine, cam switches, etc.

This information can help you identify the cause of intermittent or continuous failures.

The chart has three columns.

The trouble column lists different types of failures.

The symptom column shows the state of the phonograph when the failure occurs.

The last column shows the probable cause.

TROUBLE	SYMPTOM	PROBABLE CAUSE
Phonograph fails to operate when power is turned on	LEDs on power supply and fluorescent lights fail to light.	<ol style="list-style-type: none"> 1. Rear power switch off. 2. Plug not in wall 3. Wall circuit is dead 4. 10 amp circuit breaker tripped 5. Wiring to rear power switch 6. Rear power switch.
	LEDs on power supply fail to light but fluorescent lamps lit	<ol style="list-style-type: none"> 1. 2 amp circuit breaker tripped. 2. Power Supply 3. 28 VAC overload from bill acceptor or mag., transfer, or T.T. motor
	"+8 VDC" LED on power supply fails to light but lights when phono harness at power supply is unplugged	<ol style="list-style-type: none"> 1. Central Control Computer 2. Mech control 3. Wallbox interface 4. Bill Acceptor 5. On/Service/Off switch 6. Wiring <p>NOTE: To locate problem reconnect phono harness and unplug connectors in order below. If +8 VDC LED lights replace last unit unplugged.</p> <ol style="list-style-type: none"> 1. Wallbox Interface (J103) 2. Central Control Computer (J105) 3. Mech Control Harness (J205) 4. Mech Control (J206) 5. Bill Acceptor
	"+28 VDC" LED on Power Supply fails to light but lights when Phono Harness at Power Supply is unplugged	<ol style="list-style-type: none"> 1. Mech Control Board 2. Bill Acceptor 3. Detent Coil 4. Wiring

TROUBLE	SYMPTOM	PROBABLE CAUSE
Magazine does not rotate when power is turned On or a Selection is made	"Mag. Motor" and "Detent" LED's ON, detent is actuated	1. Wiring to Magazine Motor 2. Magazine Motor 3. Mech. Control Board
	"Mag. Motor" and "Detent" LED's ON, Detent not actuated	1. Wiring to Detent Coil 2. Detent Coil 3. Mech. Control Board
	"Mag. Motor" LED OFF or "Detent" LED OFF	1. Wiring from Central Control Computer to Mech Control Board 2. Central Control Computer 3. Mech. Control Board
Makes wrong selections	OPT SW Index or OPT Sw. Home operating intermittantly	1. Readjust Sprag Assembly (See Page 18) 2. Readjust Optical Switch (See Page 20) 3. Check Detent Coil Adjustment (Page 18)
Magazine Rotates Continuously	"Mag Motor" LED OFF	1. Wiring to Magazine Motor 2. Mech. Control Board
	"Mag. Motor" LED ON, and "Opt. Sw. Index" LED not flashing, and/or "Opt. Sw. Home" LED does not flash at record number 99.	1. Optical Switch 2. Wiring to Optical Switch 3. Mech. Control Board 4. Optical Switch or Home Position Blocked
	"Mag. Motor" LED on and both Optical Sw. LED's Normal	1. Wiring from Central Control Computer to Mech Control Board
Record does not Transfer	"Tran. Motor" LED is ON	1. Wiring to Transfer Motor 2. Mech. Control Board 3. Transfer Motor
	"Tran. Motor" LED is OFF	1. Wiring from Central Control Computer to Mech Control Board 2. Central Control Computer 3. Mech. Control Board
	"Tran. Motor" LED comes ON and transfer starts but LED and Motor turn off when cam leaves inner cam Switch	1. Outer cam Switch 2. Central Control Computer 3. Mech. Control Board
Transfer Starts when Power is applied and runs continuously	"Tran. Motor" LED is OFF	1. Mech. Control Board 2. Wiring to Motor
	"Tran. Motor" LED is ON	1. Central Control Computer 2. Mech Control Board 3. Wiring from Central Control Computer to Mech Control
Transfer starts and runs continuously	"Tran. Motor" LED comes ON when Motor starts and stays ON	1. Wiring to Outer cam Sw. 2. Outer cam Switch 3. Central Control Computer 4. Wiring from Central Control Computer to Mech Control 5. Mech Control Board

TROUBLE	SYMPTOM	PROBABLE CAUSE
Turntable motor does not run	"T.T. Motor" LED is ON	1. Wiring to T.T. Motor 2. T.T. Motor 3. Mech Control
	"T.T. Motor LED is OFF	1. Wiring from Central Control Computer to Mech Control Board. 2. Central Control Computer 3. Mech. Control Board
Record will not Cancel when Finished Playing	"Cancel" LED is ON	1. Wiring from Mech Control to Central Control Computer 2. Central Control Computer 3. Also see "Record Does not Transfer"
	"Cancel" LED is OFF	1. Wiring to Cancel Switch 2. Cancel Switch 3. Mech. Control Board
Mech will not cancel with no record on T.T.	Cancel LED is off	1. Mute Plug to Amp is unplugged 2. AC Receptacle to Amp is unplugged
Record Cancels without Playing	"Cancel" LED stays ON	1. Short in Cancel Switch Wiring 2. Cancel Switch 3. Mech Control Board
	"Cancel" LED flashes ON as Record sets down	1. Auto Cancel Misadjusted
	"Cancel" LED does not flash	1. Wiring to outer cam Switch. 2. Outer cam Switch 3. Wiring from Mech Control to Central Control Computer 4. Mech Control Board 5. Central Control Computer
Left Side of Record Plays when Right Side Selected	"Toggle" LED is ON	1. Wiring to Toggle Coil(s) 2. Toggle Coil(s) 3. Mech. Control
	"Toggle" LED is OFF	1. Wiring from Central Control Computer to Mech Control Board 2. Central Control Computer 3. Mech. Control Board
Money Counter or Play Counter Fails to Count	Fails to Count	1. Wiring to Counter 2. Counter 3. Mech Control Board 4. Wiring from Central Control Computer to Mech Control 5. Central Control Computer
Automix does not Work	Turntable Motor runs, Hub does pop up, but speed changes for 33 RPM Records	1. Hub Shift Wiring 2. Automix Switch 3. Hub Shift Coil
	Turntable Motor Runs, Hub pops up, but speed does not shift for 33 RPM Records	1. Speed Shift Wiring 2. Automix Switch 3. Speed Shift Coil
	Hub does not pop up and speed will not change	1. Wiring 2. Automix Switch 3. Mech. Control Board

TROUBLE	SYMPTOM	PROBABLE CAUSE
Phonograph is always in Service ("Memorec") Mode of Operation	Record Number / Times selected Display is always lit	<ol style="list-style-type: none"> 1. On/Service/Off Switch 2. "+8 on Signal" Wiring 3. Central Control Computer
Phonograph will not go into Service Mode of Operation	Record Number/ Times selected Display will not light when ON/ /Service/Off Switch is in Service Position	<ol style="list-style-type: none"> 1. Central Control Computer 2. "+8 On Signal" Wiring 3. On/Service/Off Switch
No Credit	No Credit given by Coins and Bills	<ol style="list-style-type: none"> 1. Central Control Computer
	No Credit given by Coins but Bills give Credit	<ol style="list-style-type: none"> 1. Coin Switch common wiring 2. Central Control Computer
	One value of Coin will not give Credit	<ol style="list-style-type: none"> 1. Coin Rejected 2. Wiring to Coin Switch 3. Coin Switch 4. Central Control Computer
	Bills will not give Credit	<ol style="list-style-type: none"> 1. Bill Acceptor 2. Wiring to Bill Acceptor 3. Central Control Computer
Wrong Credit	Credit for amount deposited does not agree with Price Card setting	<ol style="list-style-type: none"> 1. One or more Coins did not register (See No Credit) 2. Pricing Inserts 3. Pricing Board 4. Wiring from Pricing Board to Central Control Computer 5. Central Control Computer 6. Coin Switch Wiring incorrect (See Page 25)
System does not respond to Key board	"Make Selection" LED not lit	<ol style="list-style-type: none"> 1. Insufficient Credit
	"Make Selection" LED lit but entire Keyboard does not work	<ol style="list-style-type: none"> 1. Shorted "Reset" Key 2. Central Control Computer 3. Short in "Reset" Key Wiring
	"Make Selection" LED lit but certain Keys do not work	<ol style="list-style-type: none"> 1. Wiring from Central Control Computer to Pricing Board 2. Keyboard 3. Central Control Computer 4. Pricing Board
Digital Display does not work	Display Lights but shows Wrong Information	<ol style="list-style-type: none"> 1. Central Control Computer
	" +8 VDC" LED on Central Control Computer is lit but Display Digits and LED lamp will not light	<ol style="list-style-type: none"> 1. Central Control Computer
	Certain LED Lamps and/or Digits will not work	<ol style="list-style-type: none"> 1. Wiring from Central Control Computer to Digital Display 2. Digital Display 3. Central Control Computer

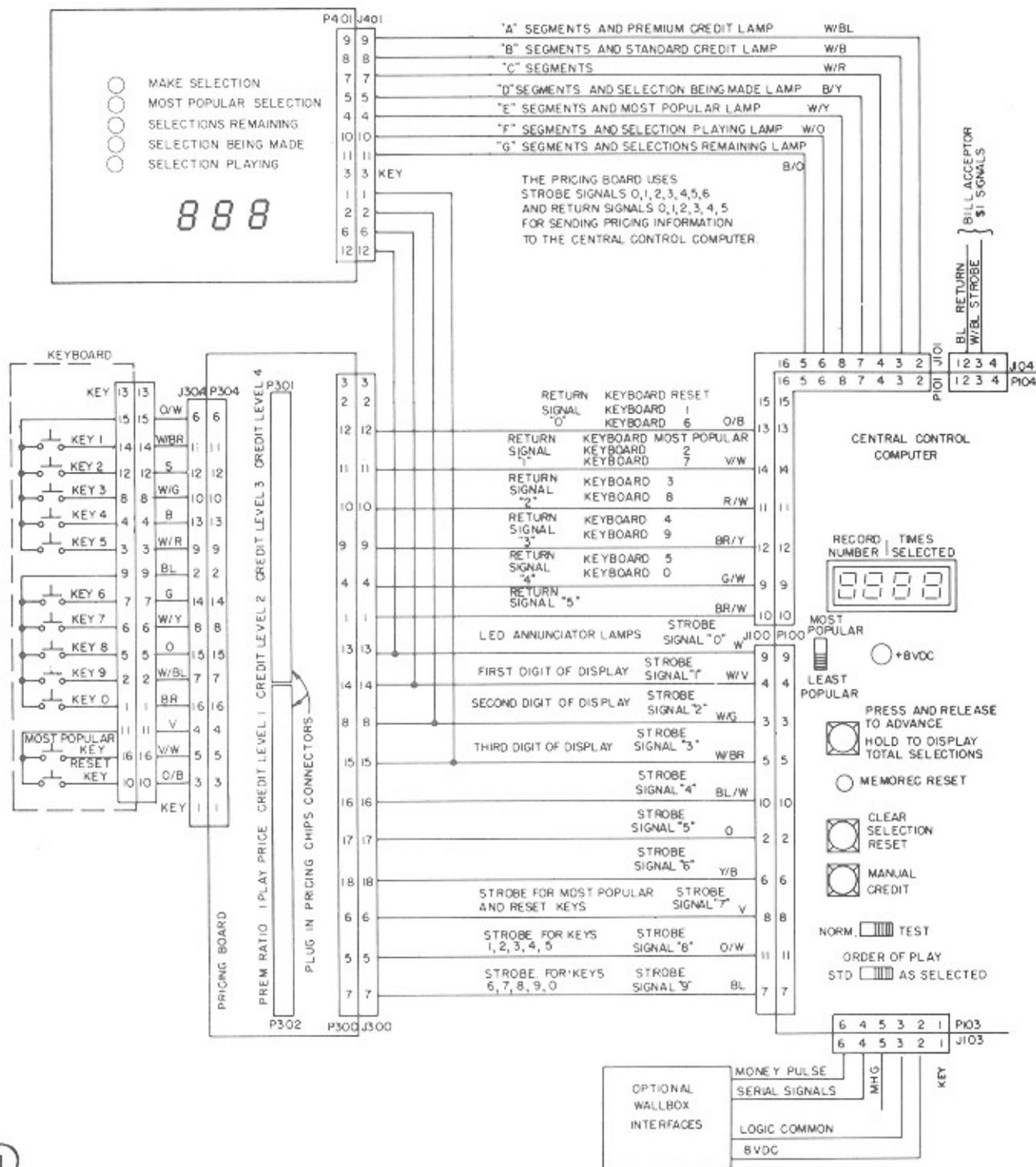
SEQUENCE OF OPERATION

The sequence of operation diagrams which follow illustrate the phonograph operational cycle.

The first diagram shows voltage and common connections to the electronic circuit modules and the electrical components located on the mechanism.

The remaining diagrams illustrate which signals are active during each point in the phonograph operational cycle.

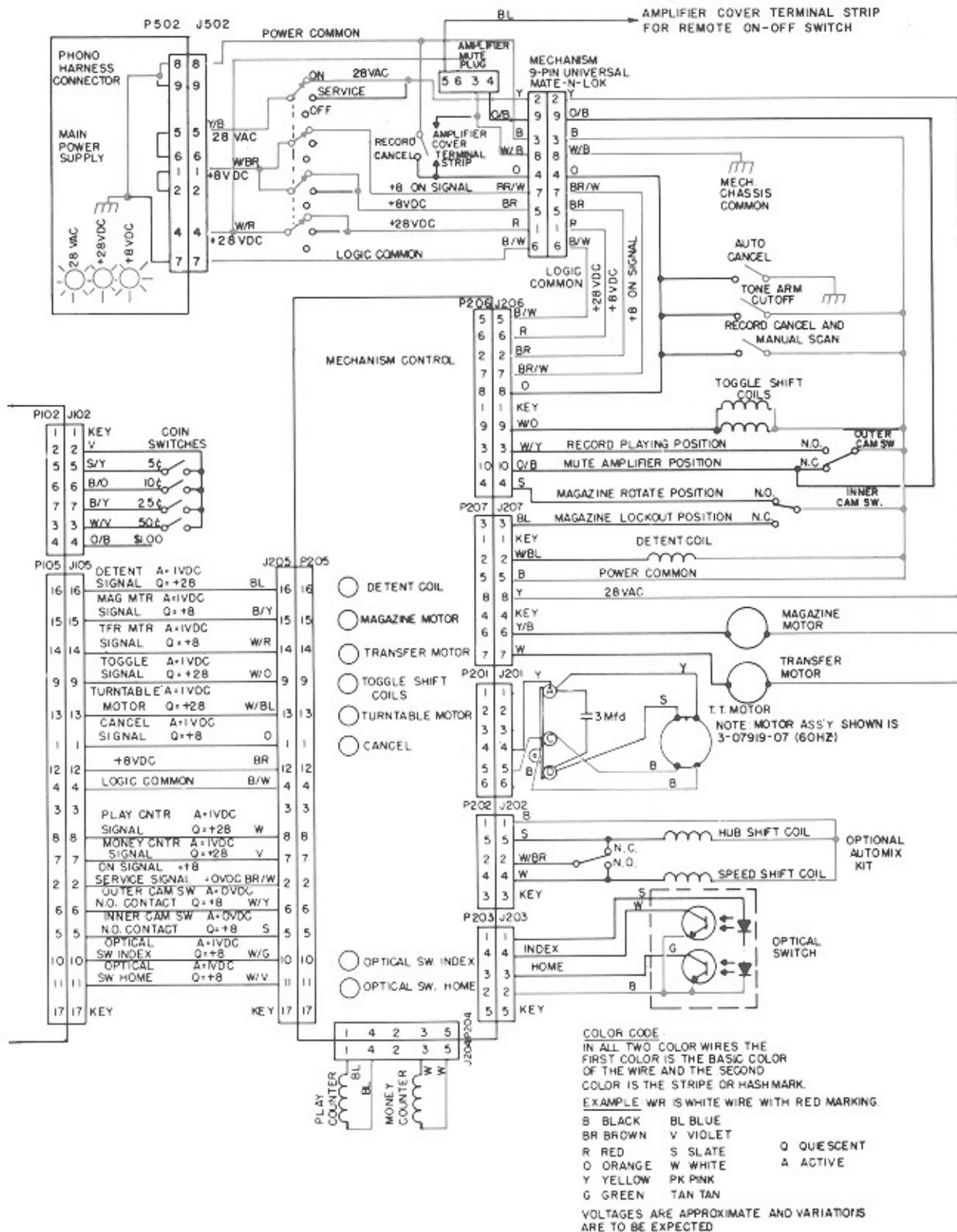
Most of the voltages listed on the block diagram can be measured with an inexpensive VOM.



1

Power turned on, voltages and commons applied to circuits and components.

1. Power flows thru power cord and power switch to energize power supply. The three power supply LEDs light. The voltages go thru on-service-off switch and energize 28 VAC, + 28 VDC, and + 8 VDC busses. The "+ 8 VDC" LED on C.C.C. lights.
2. "28 VAC" goes to magazine motor, transfer motor, and mechanism control. The 28 VAC is routed thru mechanism control to the turntable motor.
3. "+ 28 VDC" goes to amplifier mute plug, and mechanism control.
4. "Power common" goes to outside record cancel, and manual scan switch, tonearm cutoff, toggle shift coils, inner and outer cam switches, detent coil, and mechanism control. It is routed thru mechanism control to play and money counters, and hub shift and speed shift coils.

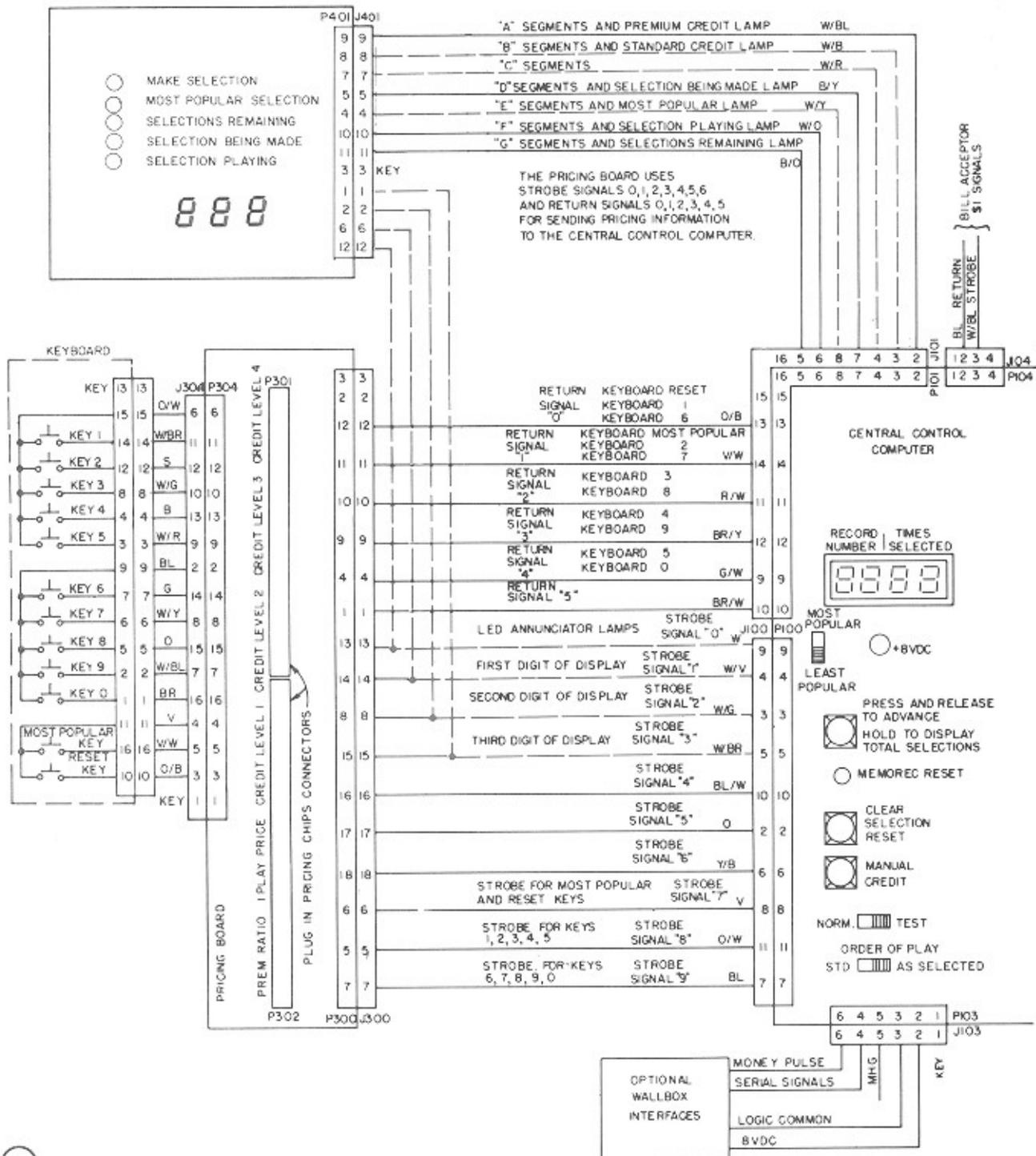


"+ 8 VDC and logic common" go to mechanism control. They are routed thru mechanism control to the C.C.C. and logic common to optical switch. The C.C.C. routes them to the wallbox interface.

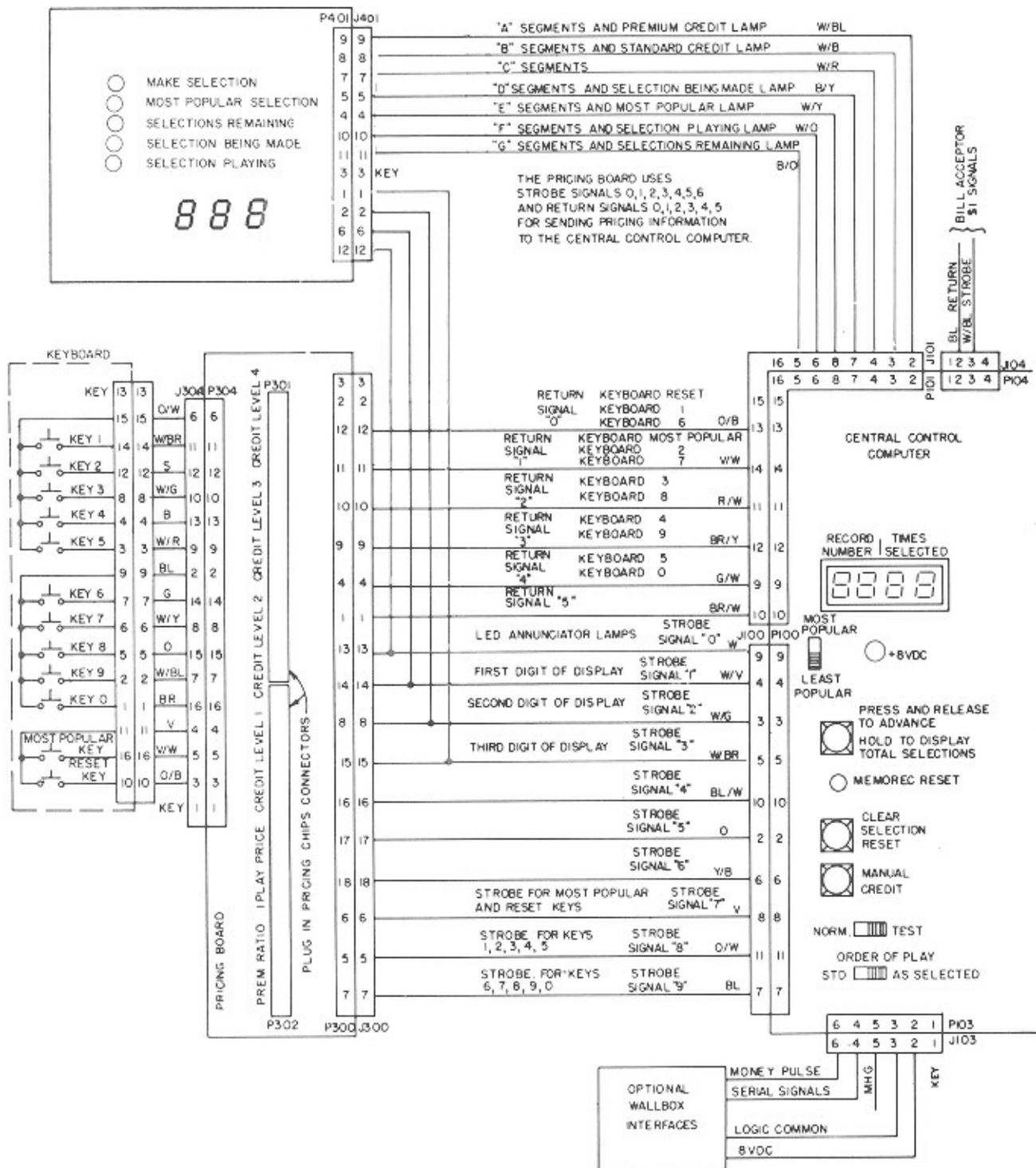
"+ 8 on Signal" is routed thru mechanism control to the C.C.C.*

"Mech. chassis common" goes to amplifier mute plug, amplifier cover terminal strip and auto cancel.

* C.C.C. = Central Control Computer



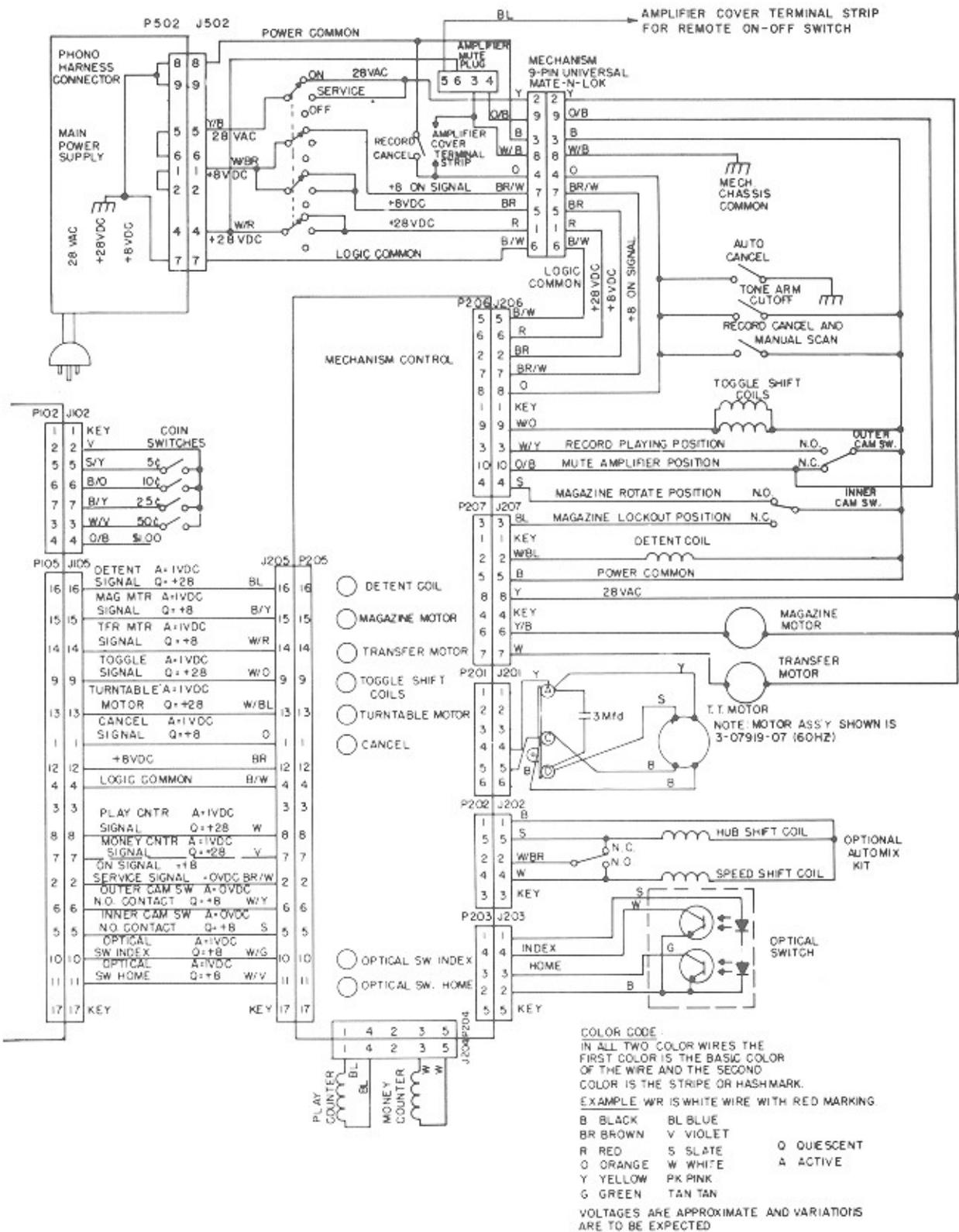
- 2
- C.C.C. senses power turned on (no selections in memory).
1. The C.C.C. begins to constantly monitor the state of all switches and determines that the transfer arm (gripper bow) is in home position.
 2. C.C.C. sends the detent and mag. motor signals to the mechanism control. The "detent" and "Mag. Motor" LED's light. The mechanism control energizes the detent coil and magazine motor.
 3. The magazine rotates and magazine gear teeth interrupt the optical switch light beam causing the "optical sw. index" LED to flash. The C.C.C. advances the magazine (record) position by one each time the LED flashes from dark to light.

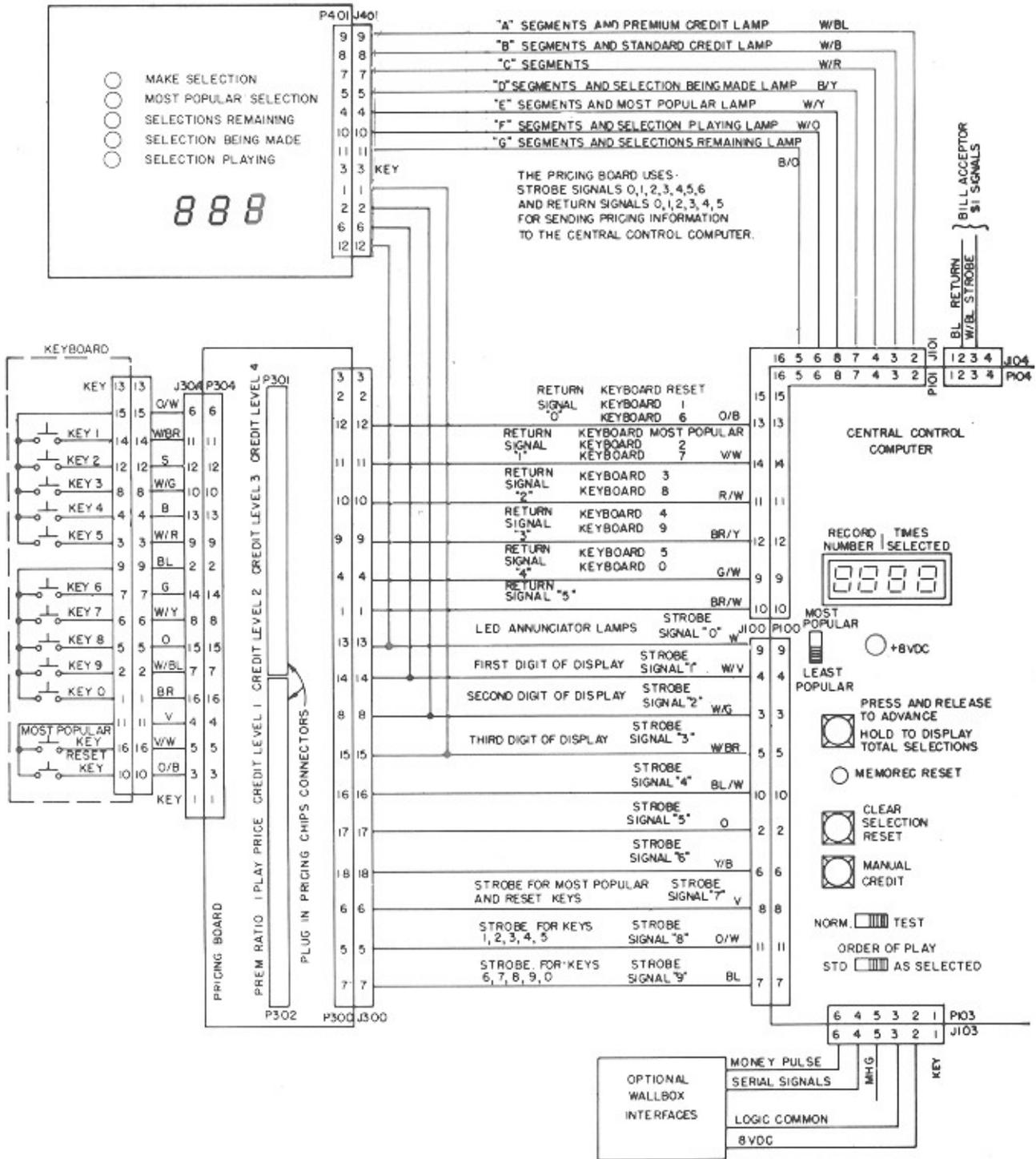


3

Patron inserts quarter. Standard credit established. (Credit is set at 1 play for 25¢, 3 for 50¢ and 1 premium equals 2 standard).

1. Patron inserts quarter into coin slot. The coin passes through the validator and actuates the 25¢ coin switch.
2. The C.C.C. senses the switch closure and stores 5 money units (nickels) in its memory.
3. 5 pulses are sent to the money counter.

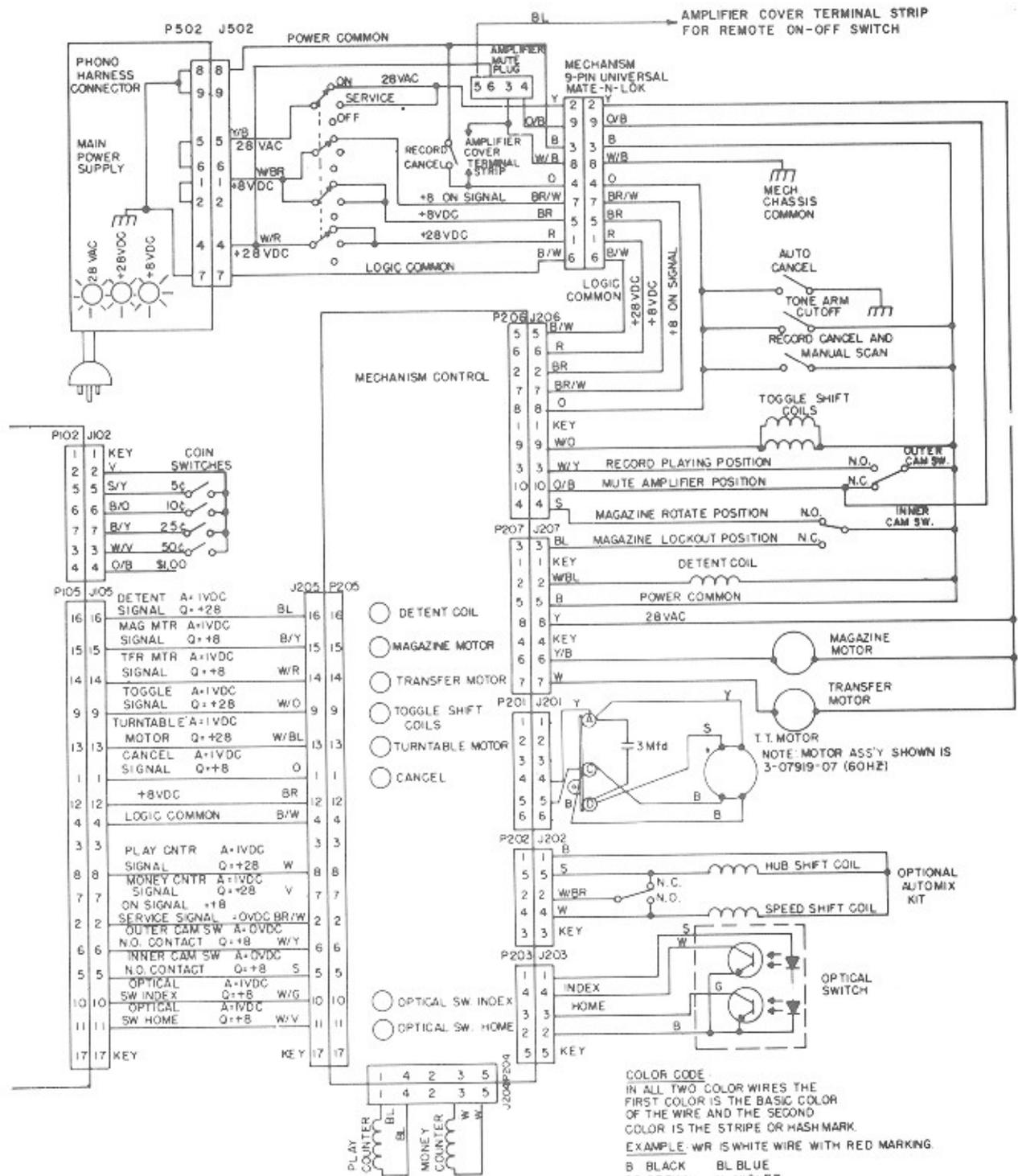




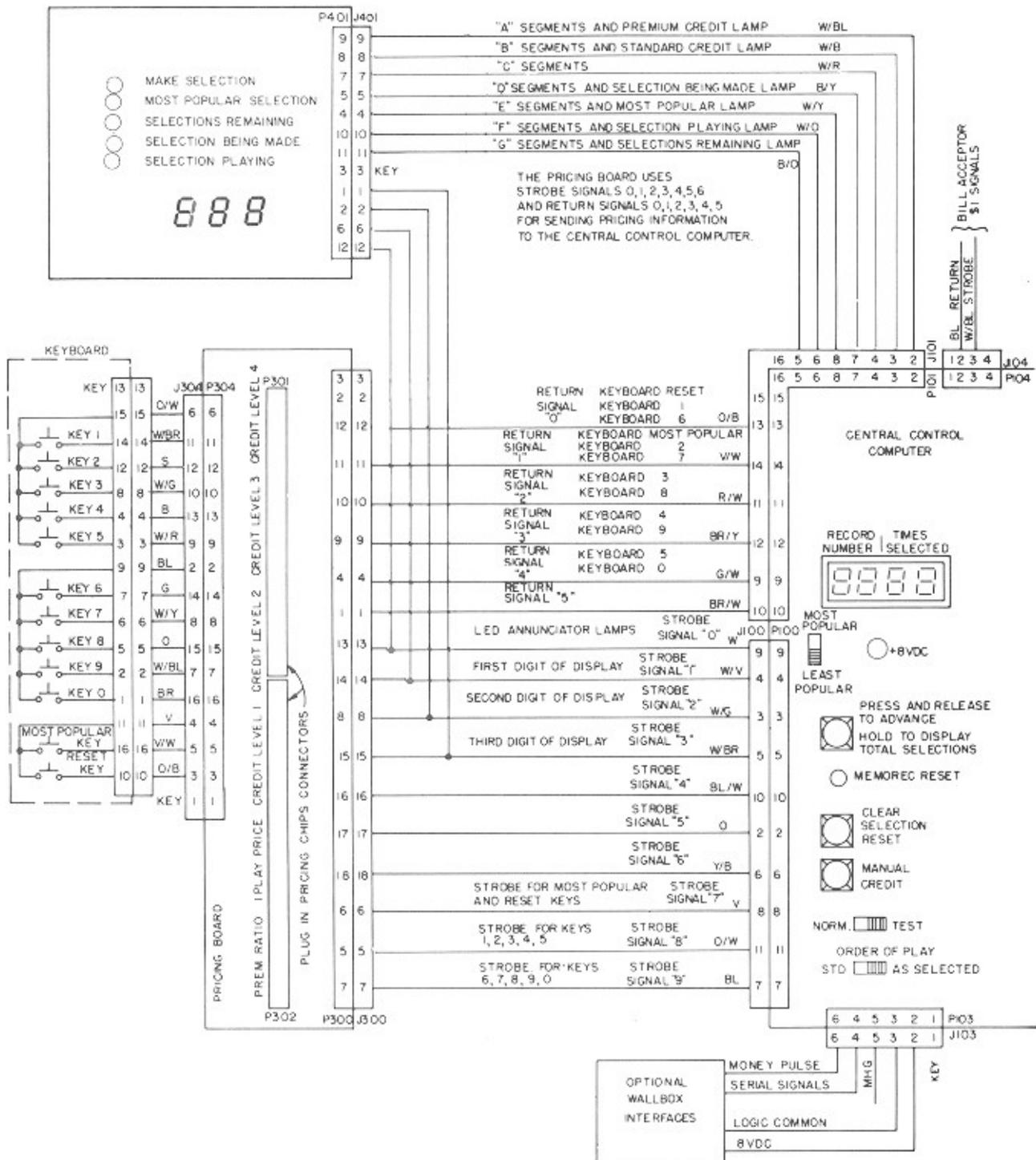
4

Second quarter inserted. Premium credit established.

1. Patron inserts another quarter into coin slot. The coin passes through the validator and actuates the 25¢ coin switch.
2. The C.C.C. senses the switch closure and stores 5 money units (nickels) in its memory.
3. Five pulses are sent to the money counter.



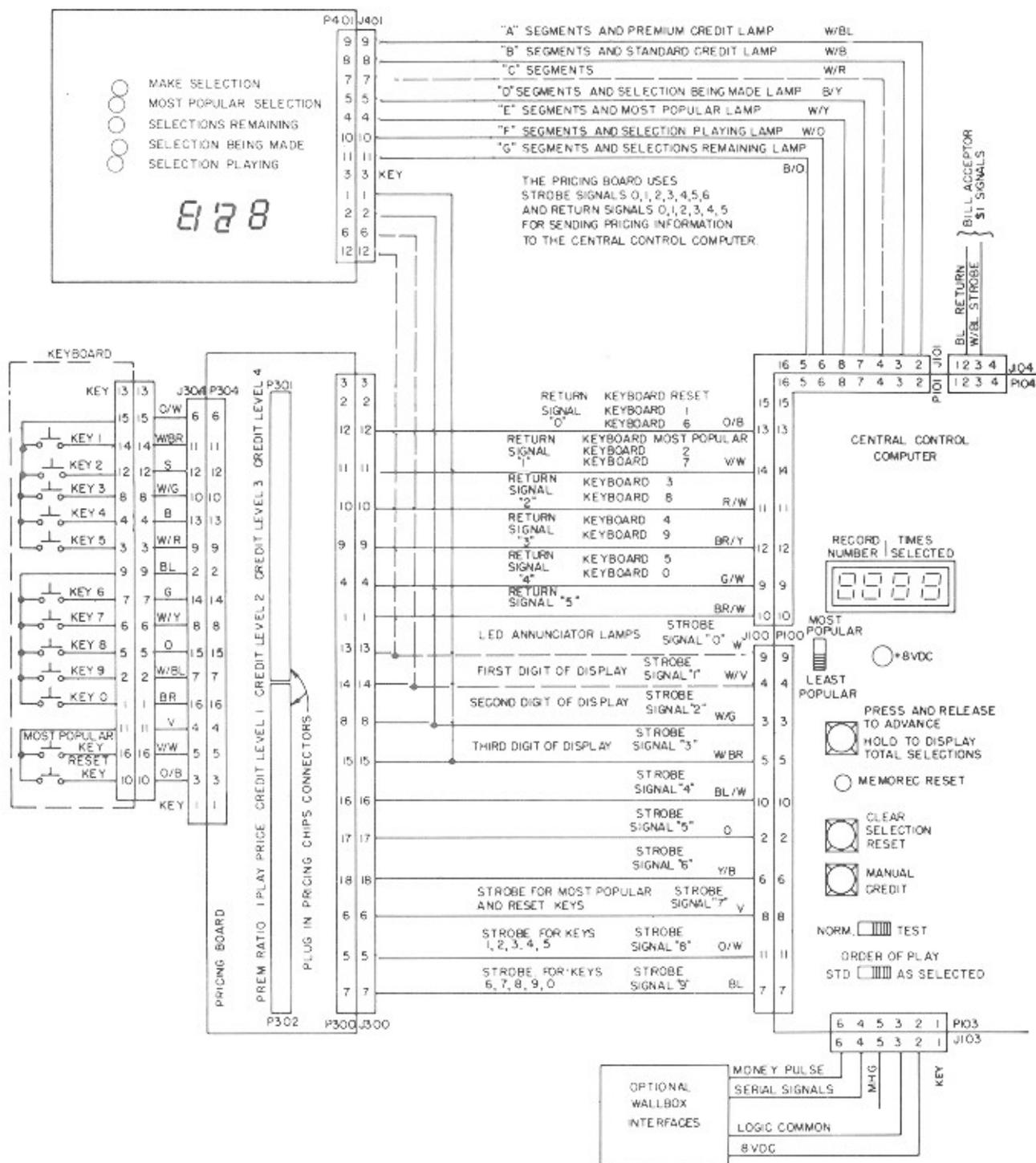
4. The C.C.C. uses the amount of money stored in its memory and the pricing board information to calculate the remaining credit equal to 3.
5. C.C.C. turns on both standard credit and "premium credit" LEDs.
6. The "selections remaining" LED lights and the digital display shows 3 credits for about four seconds.



5

First digit selected and displayed.

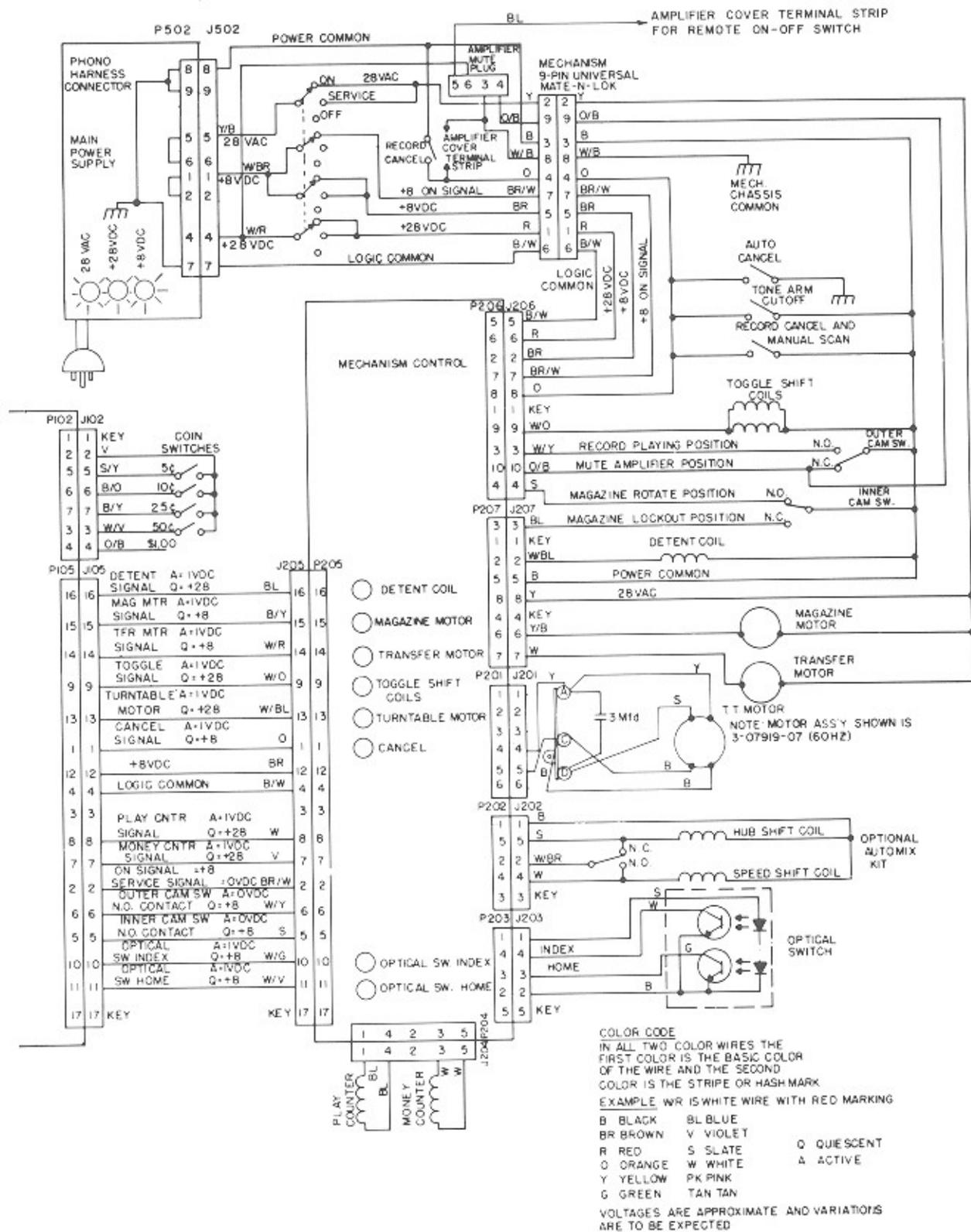
1. Patron presses first digit of his selection (in this illustration number 1).
2. The C.C.C. senses the key closure, checks that credit is available, stores the selected first digit and displays it on the digital display. The "selection being made" LED lights.



6

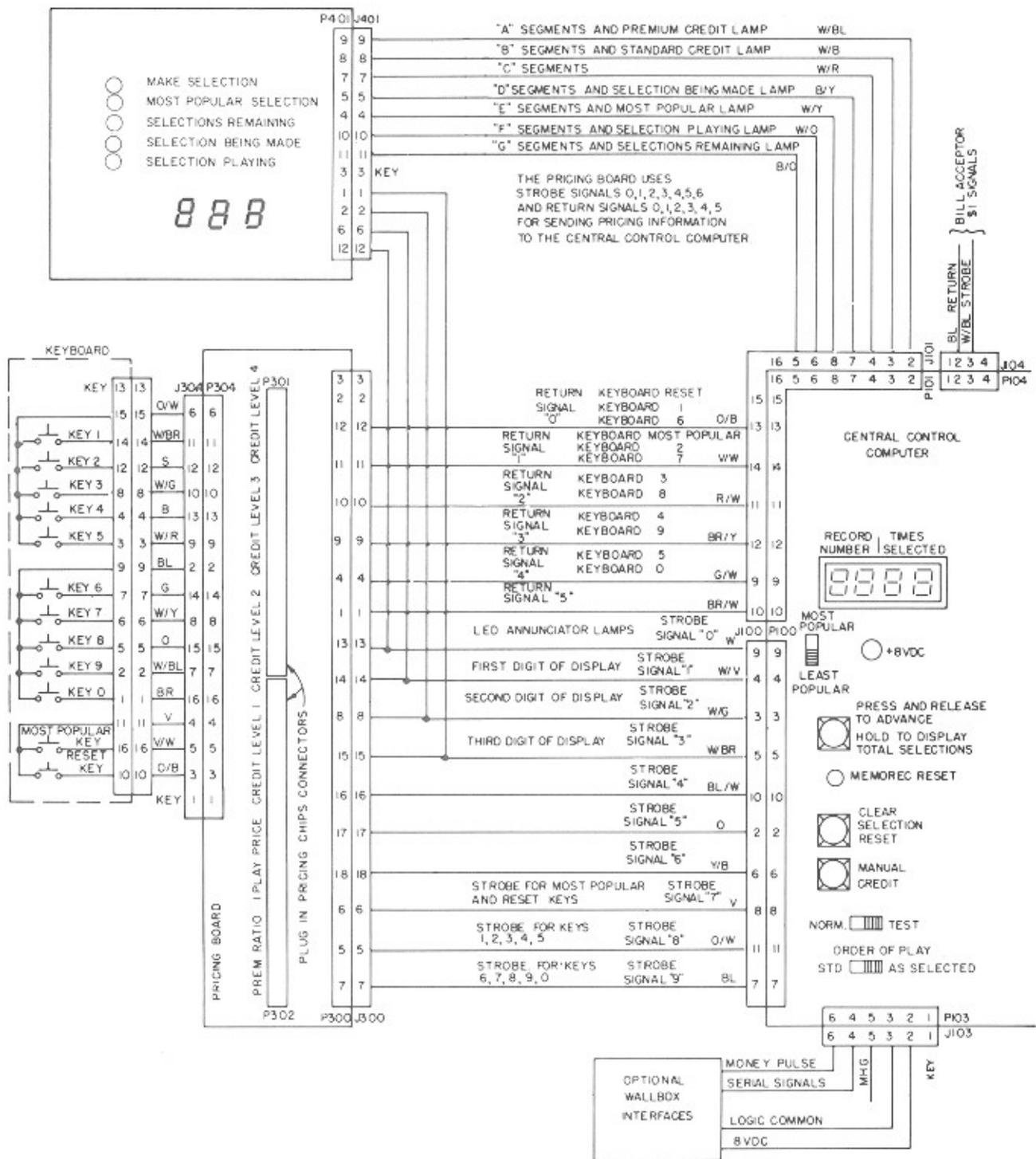
Second digit selected and displayed.

1. Patron presses second digit of his selection (in this illustration number 2).
2. The C.C.C. senses the key closure, stores the selected second digit and displays it.



NOTE

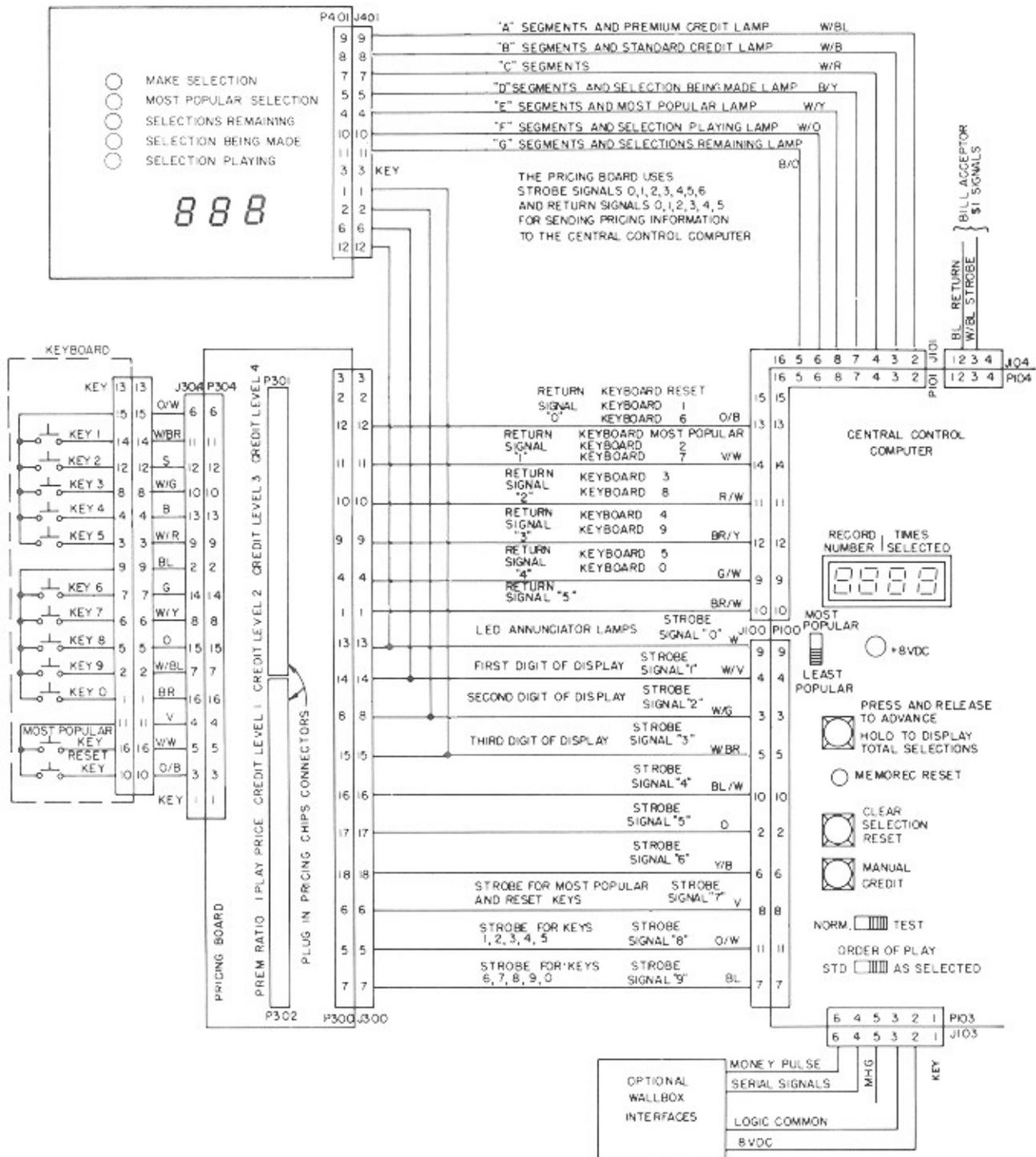
If the phonograph has premium selections and the selection is in a premium group, and premium credit is not available the key is ignored. Either add more credit or make a standard selection.



7

Third digit selected and displayed - selection stored, Memorec incremented.

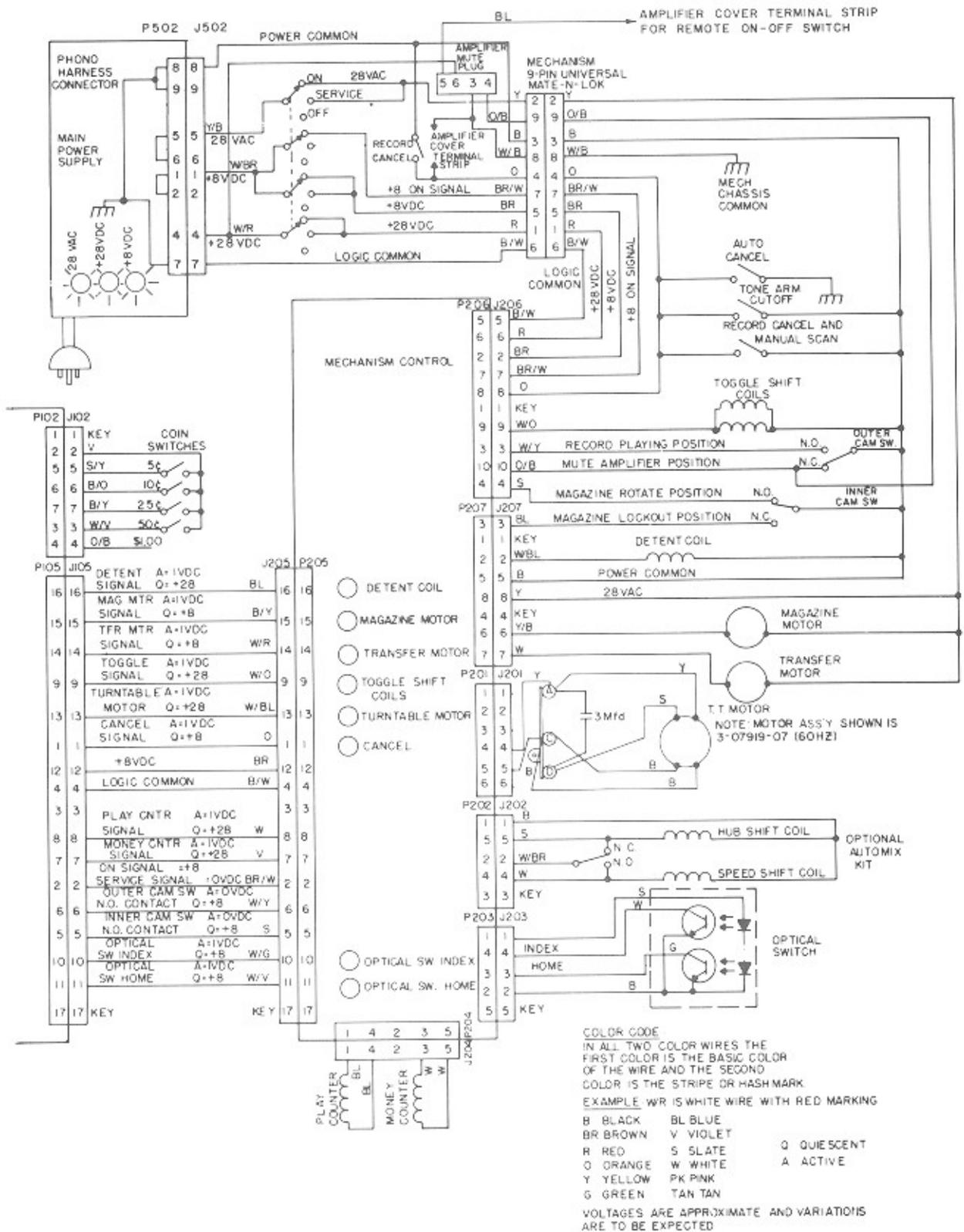
1. Patron presses third digit of his selection (in this illustration number 3).
2. The C.C.C. senses the key closure, stores the third digit and displays it.

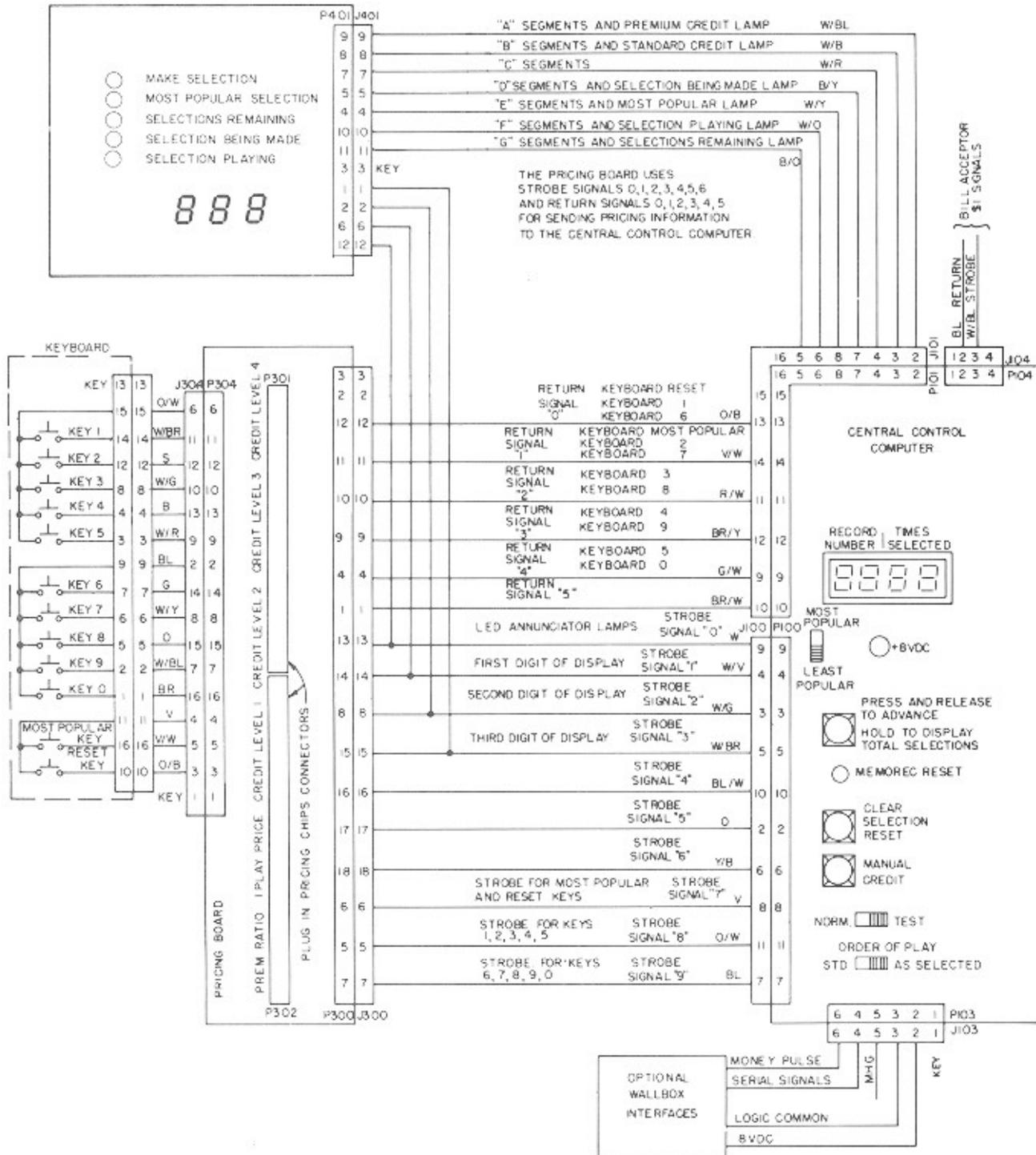


8

Credit cancelled - Selections remaining displayed.

1. C.C.C. cancels one credit (two credits would be cancelled for a premium selection).
2. "Selections remaining" LED lights and display shows 2 credits.

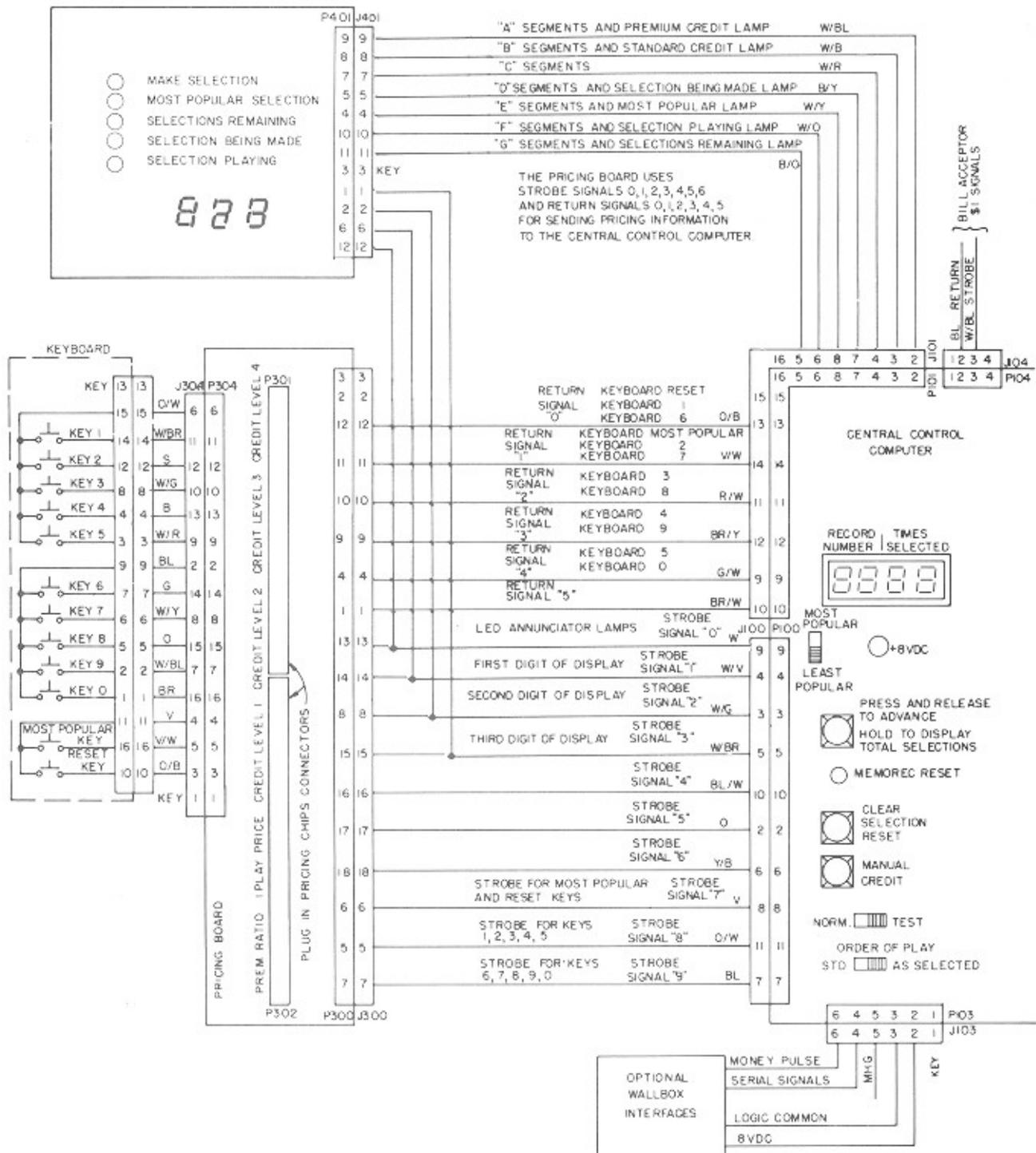




9

Detent coil and magazine motor energized - Magazine rotates.

1. C.C.C. signals the mechanism control to energize detent coil. "Detent coil" LED lights and the energized detent coil operates a mechanical linkage to unlock the magazine.
2. After 56 to 70 milliseconds C.C.C. signals the mechanism control to energize magazine motor. "Magazine Motor" LED lights and motor is energized causing the unlocked magazine to rotate.



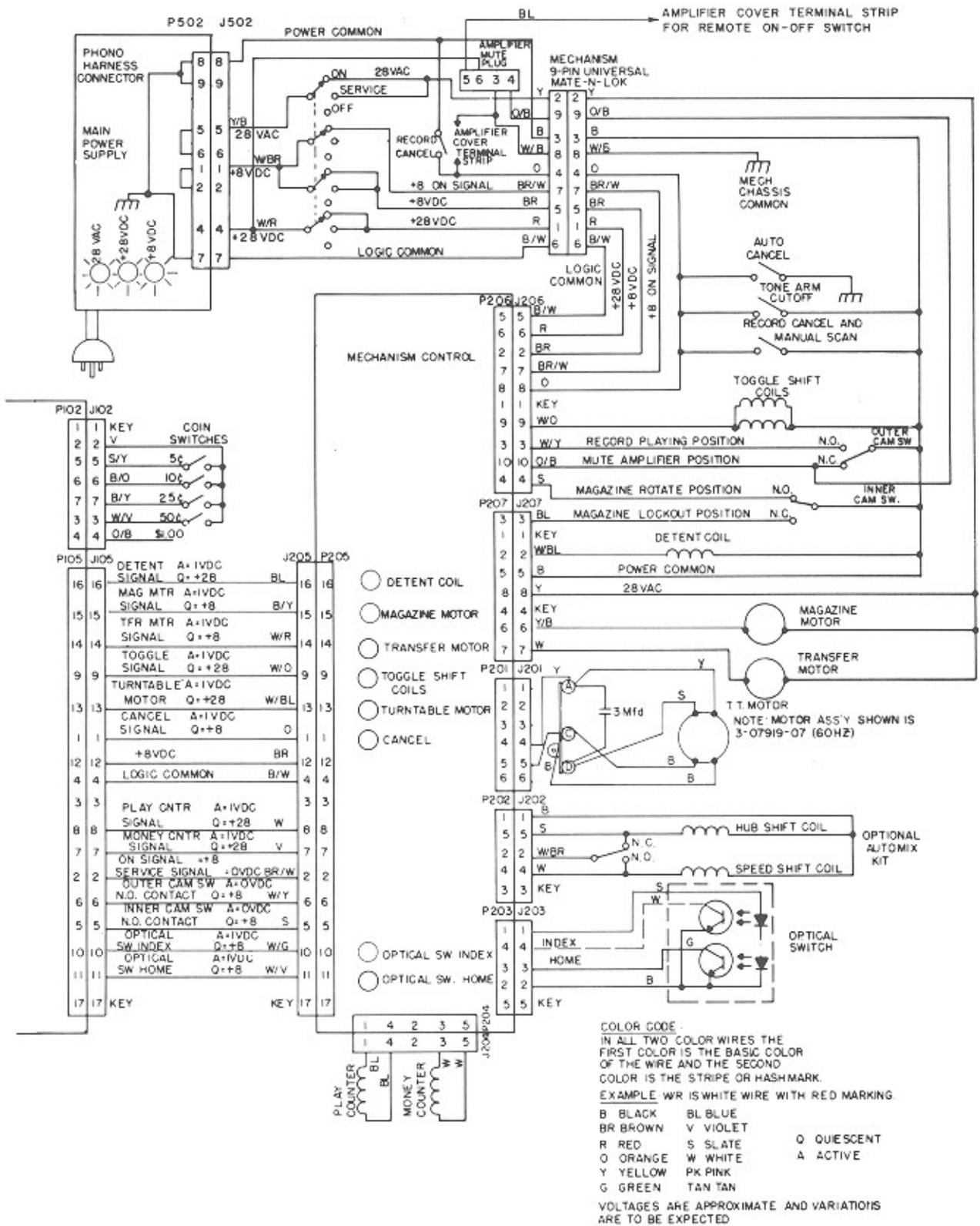
10

Magazine rotates until selection is located.

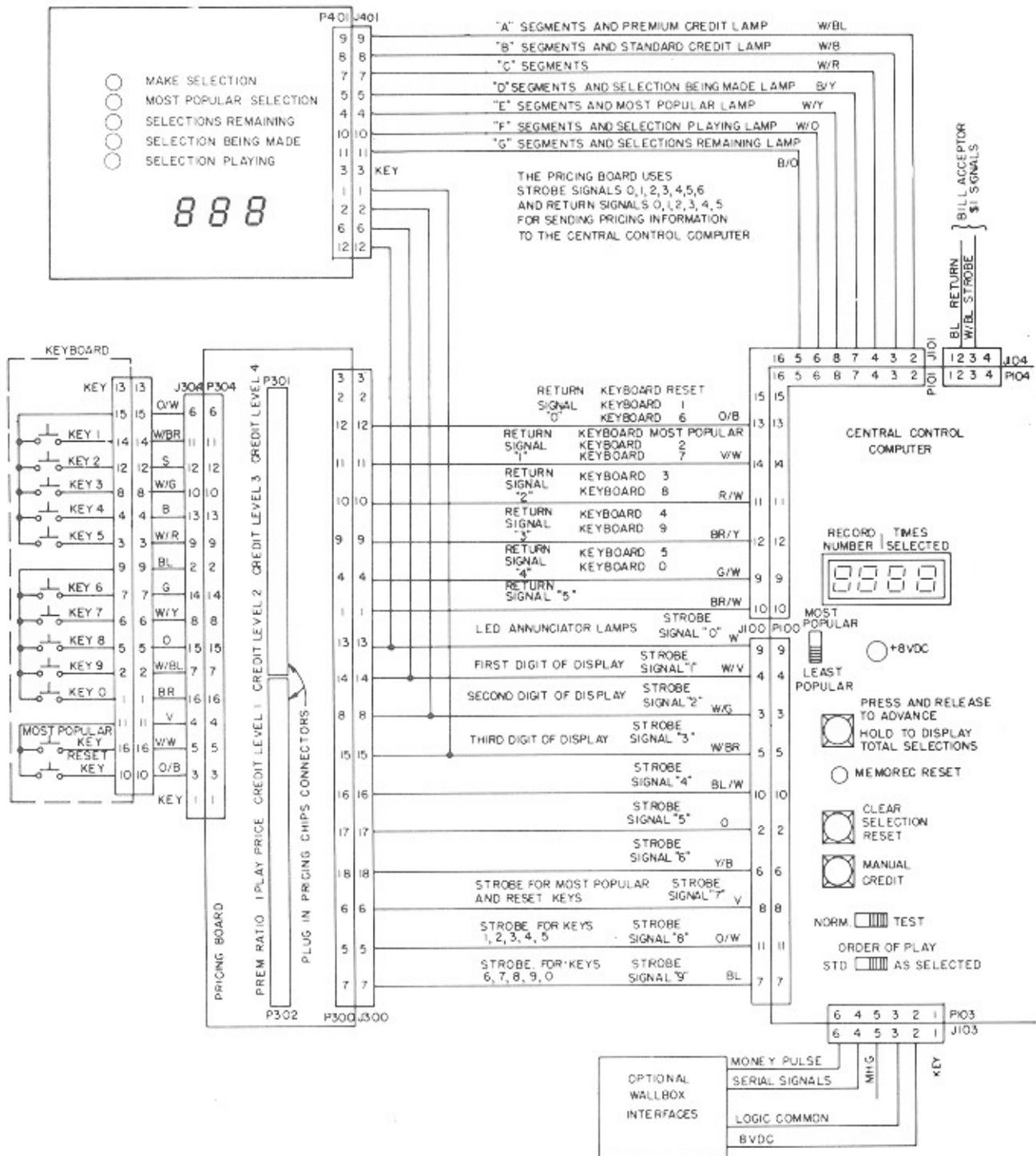
1. Magazine rotates and gear teeth interrupt optical switch light beam.

NOTE: "Optical sw. index" LED going from dark to light (off to on) tells C.C.C. the magazine is moving to the next record position and two things happen:

- a. C.C.C. keeps track of magazine position by adding 1 to value stored in C.C.C.
- b. C.C.C. checks the selection memory to see if left or right side of this next record has been selected.



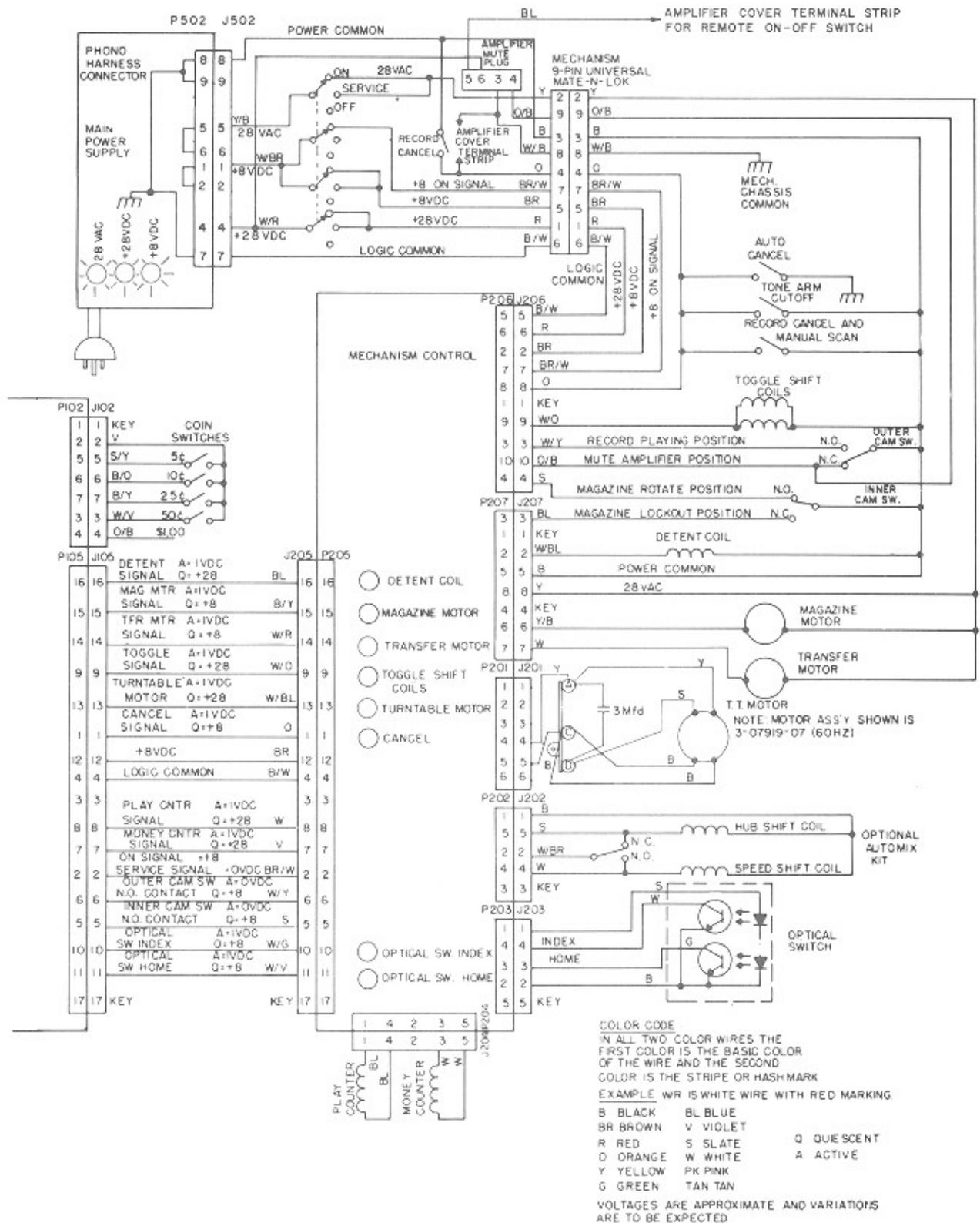
2. C.C.C. turns on "selection playing" LED.
3. Digital display shows magazine record position.



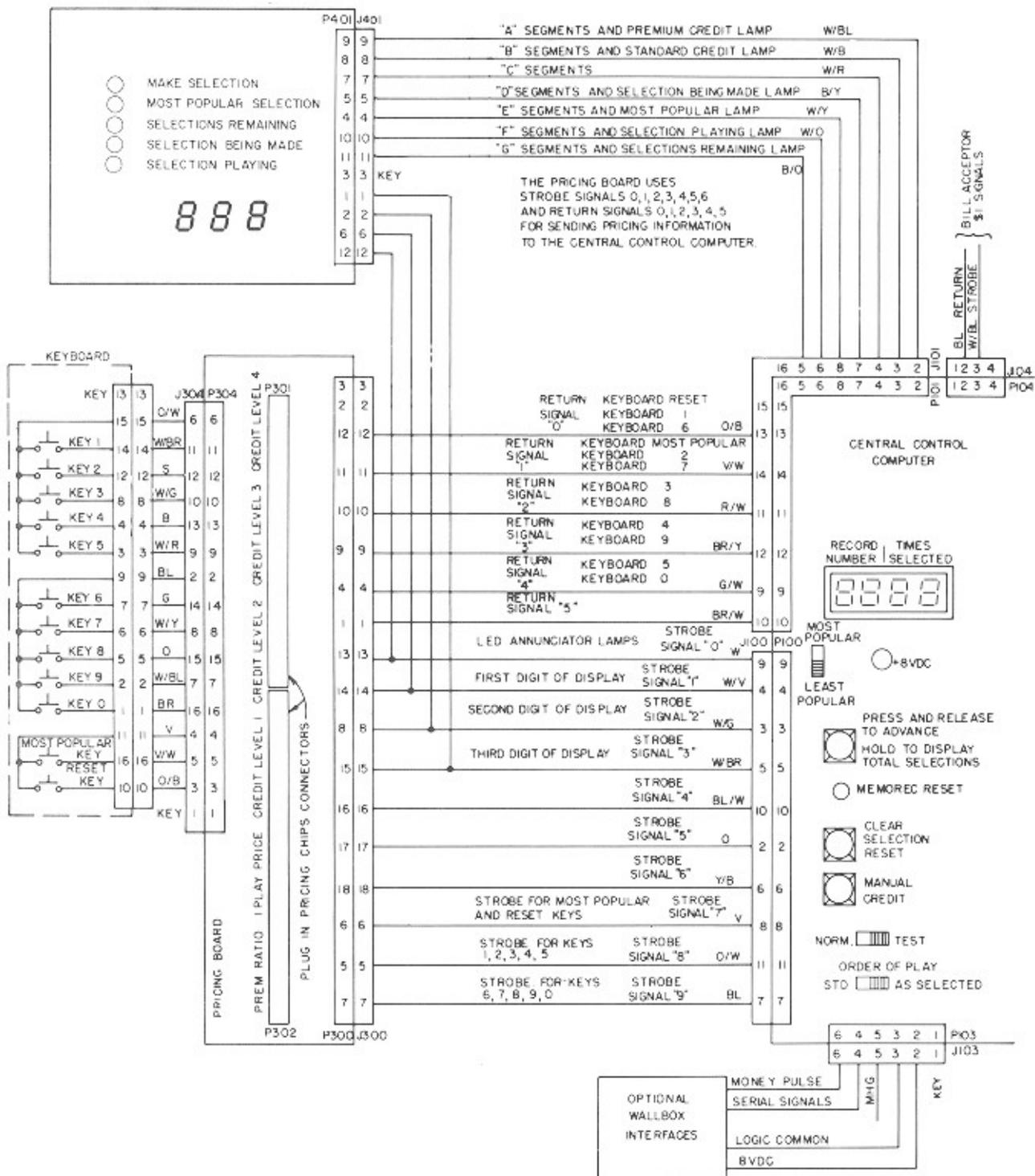
11

Selection located, record transferred to turntable, tone arm set down.

1. C.C.C. signals turn off "detent" and "mag. motor" LEDs causing mechanism control to de-energize detent coil and magazine motor.
2. Magazine is locked by detent pawl falling into slot in detent wheel.



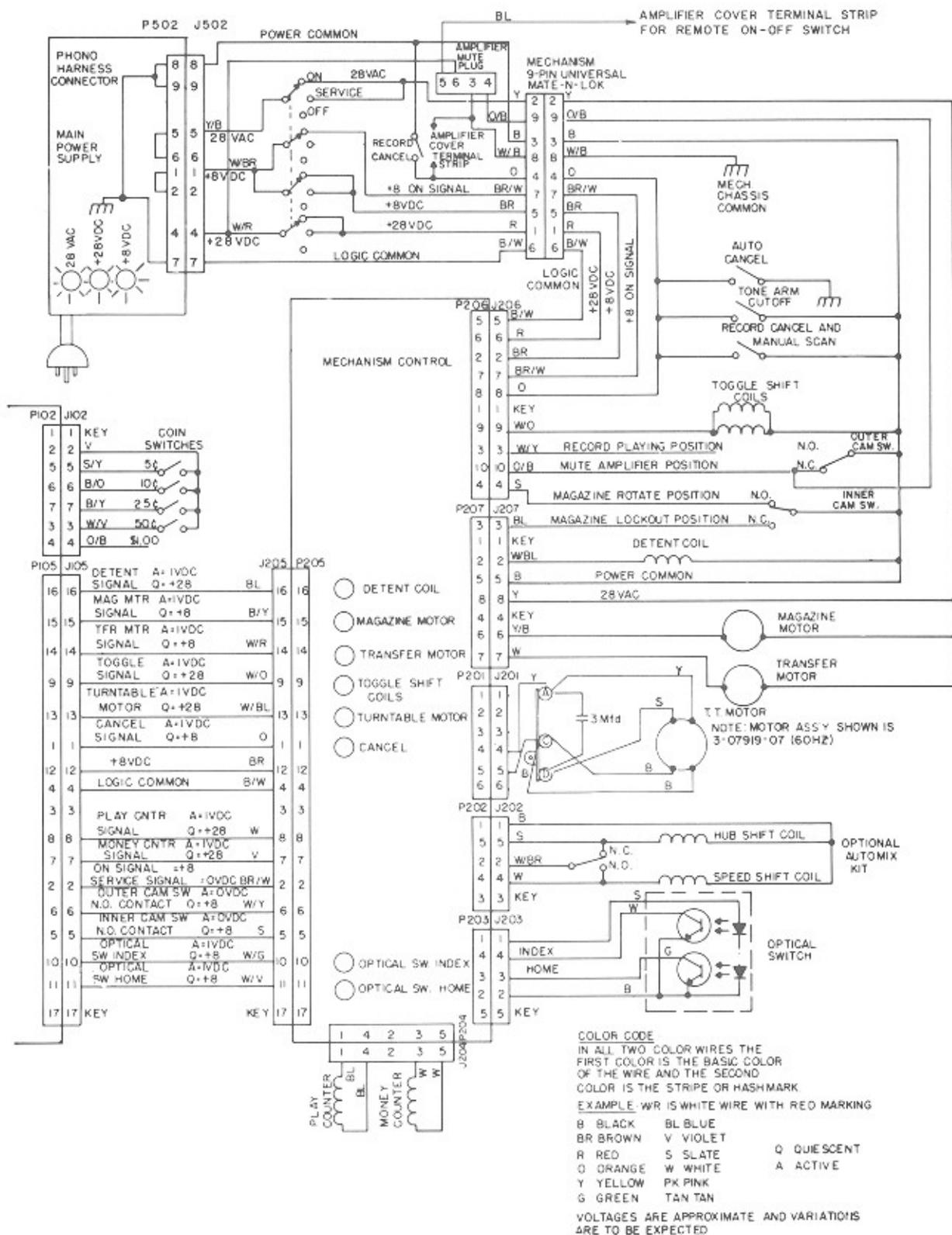
3. C.C.C. signals turn on "tran. motor" and "T.T. motor" LEDs, causing mechanism control to energize transfer and turntable motors. C.C.C. signals mechanism control to advance play counter.
4. Transfer motor rotates cam off inner cam switch. (NOTE: If the first digit of selection was a 2, the C.C.C. signal lights the "Toggle" LED causing the mechanism control to energize toggle shift coils).
5. Gripper bow picks up record, places it on turntable, and tone arm sets down. (NOTE: If a record is not placed on the turntable the Auto-Cancel operates when the tone arm sets down).



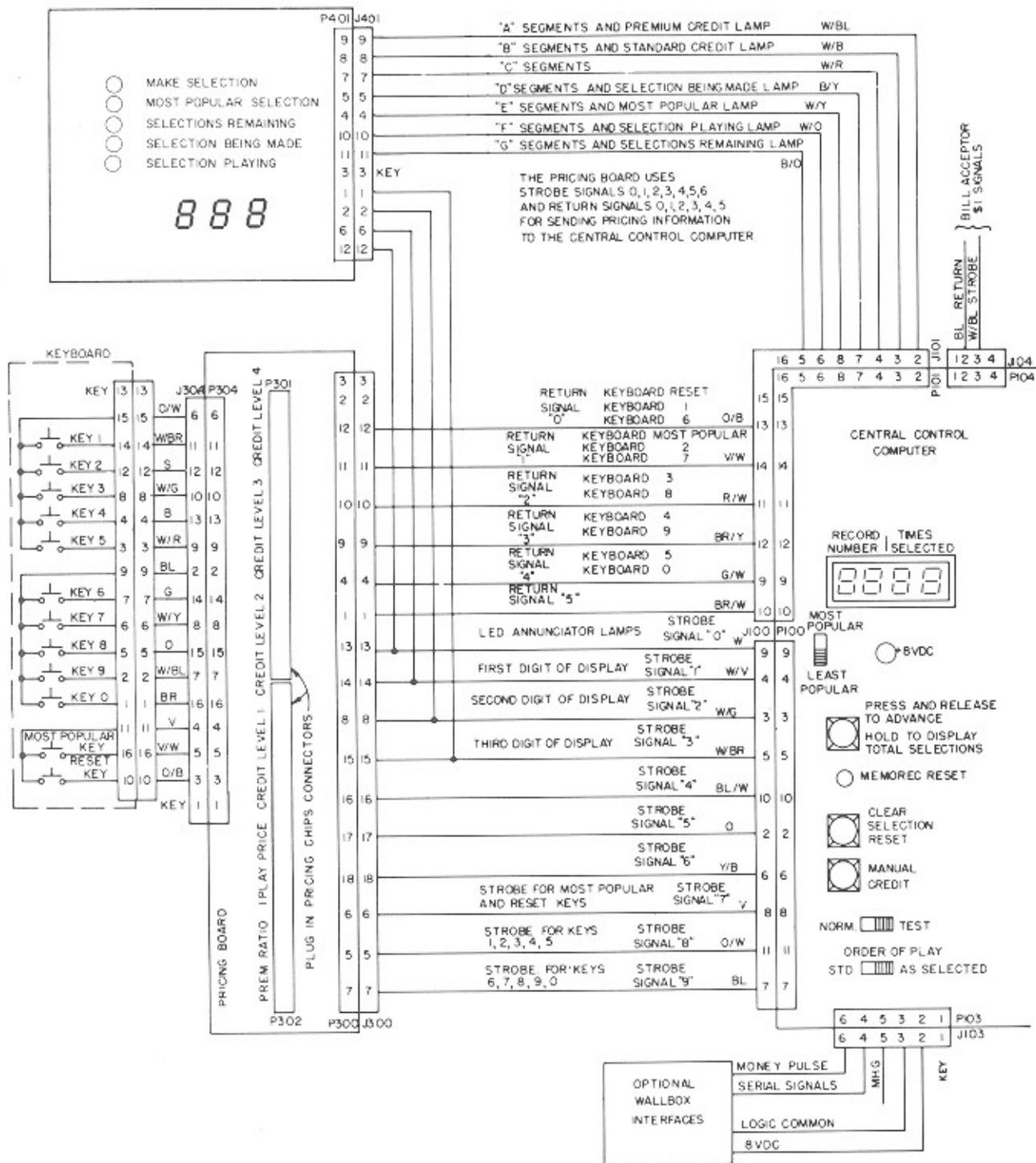
12

Amplifier unmuted and record plays.

1. Transfer motor rotates and cam moves onto outer cam switch.
2. "Outer cam sw. N.O. contact" signals C.C.C. to turn off transfer motor. "Tran. motor" LED turns off and transfer motor stops.



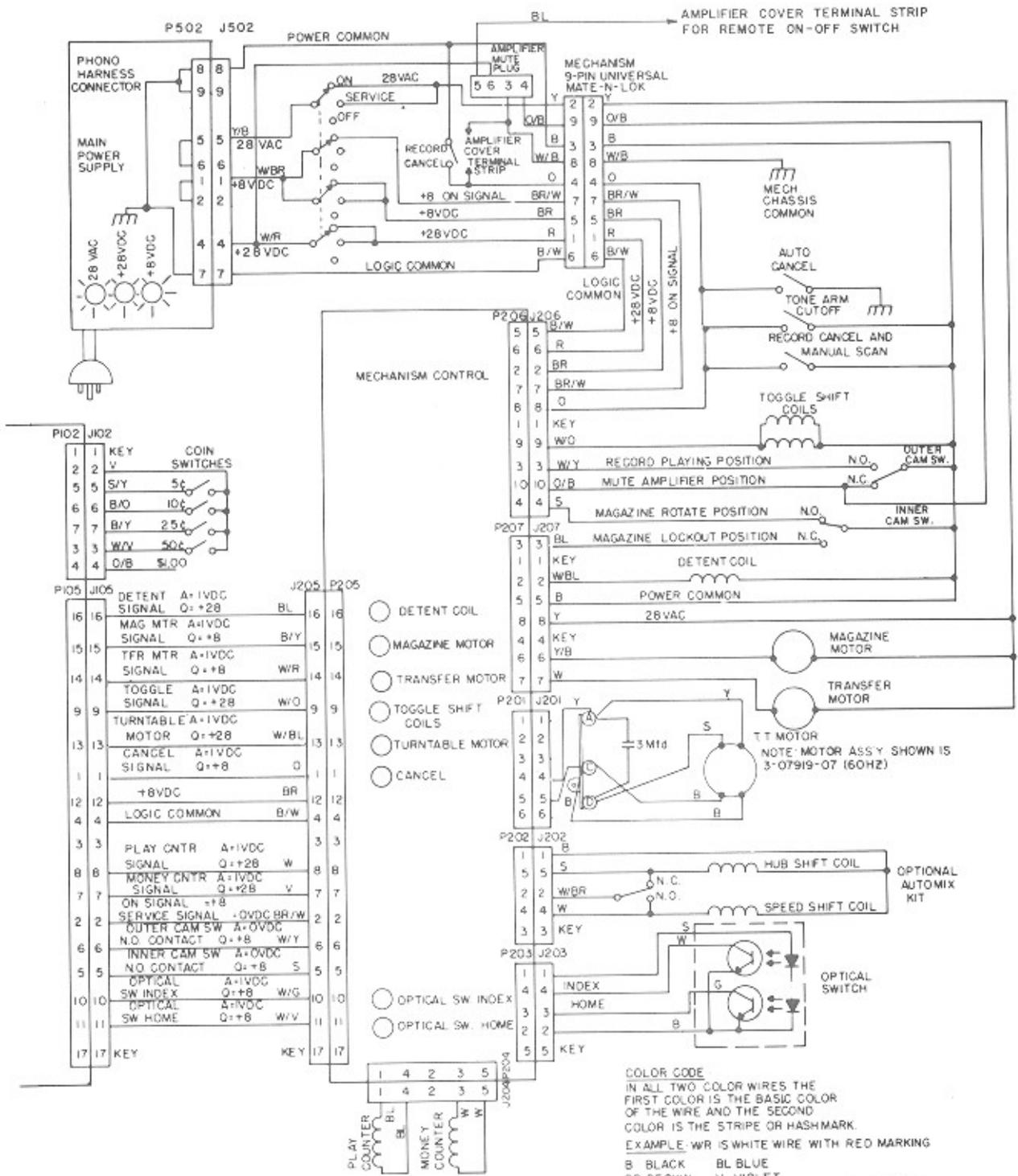
3. Ground signal is removed from "Outer cam sw. N.C. contact", causing amplifier to unmute.
4. Record plays.



13

Record ends and is returned to magazine.

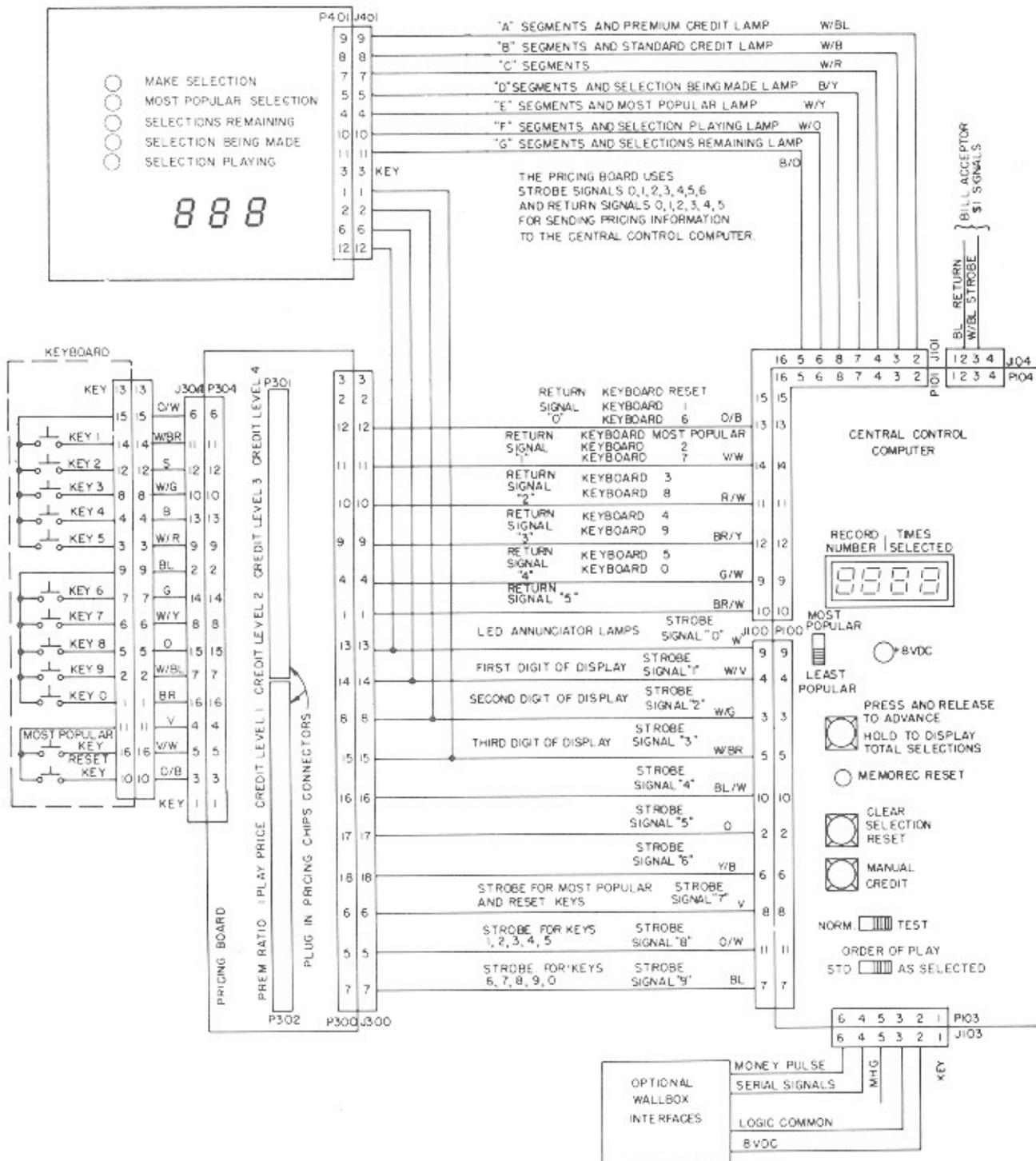
1. Tone arm cutoff sends a cancel signal to C.C.C.
2. C.C.C. turns on "Tran. Motor" LED, causing mechanism control to energize transfer motor.
3. Gripper bow picks up record and returns it to magazine.



COLOR CODE
 IN ALL TWO COLOR WIRES THE FIRST COLOR IS THE BASIC COLOR OF THE WIRE AND THE SECOND COLOR IS THE STRIPE OR HASHMARK.
 EXAMPLE: WR IS WHITE WIRE WITH RED MARKING

B BLACK BL BLUE
 BR BROWN V VIOLET
 R RED S SLATE
 O ORANGE W WHITE Q QUESCENT
 Y YELLOW PK PINK A ACTIVE
 G GREEN TAN TAN

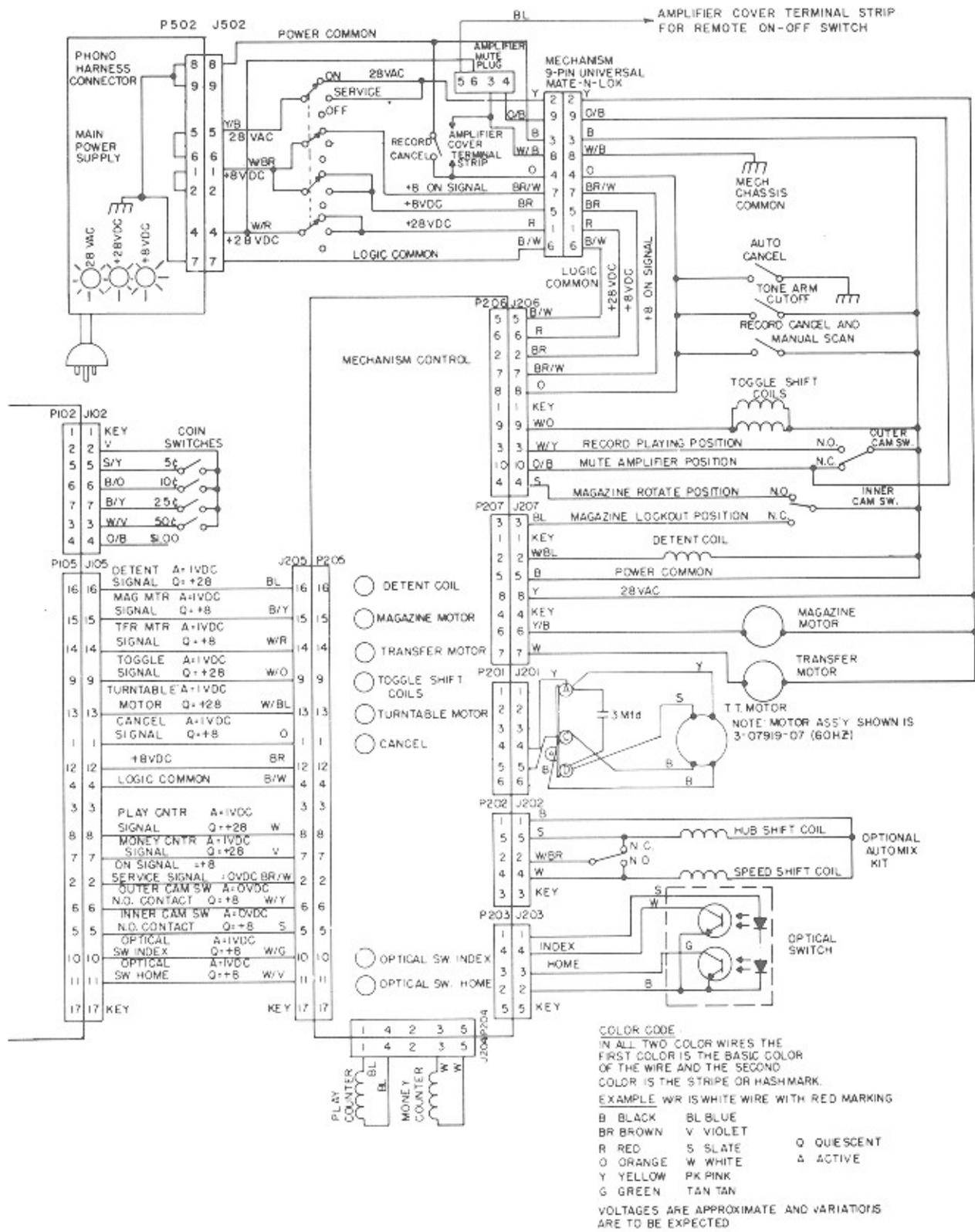
VOLTAGES ARE APPROXIMATE AND VARIATIONS ARE TO BE EXPECTED



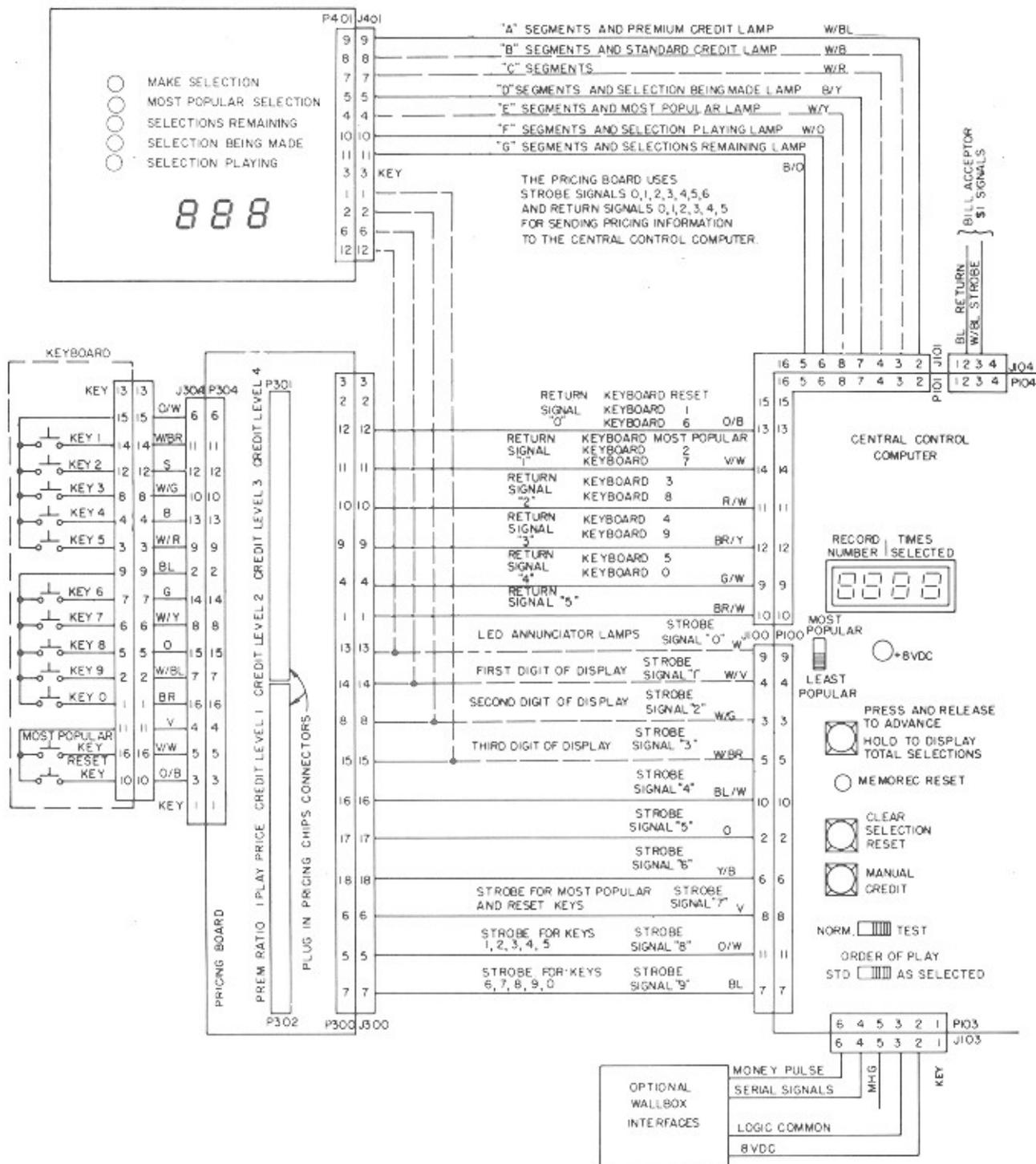
14

Transfer cycle ends, C.C.C. searches selection memory.

1. Cam rotates onto inner cam switch.
2. "Inner cam sw. N.O. contact" signals C.C.C. the transfer cycle is completed.
3. C.C.C. turns off "Trans. Motor" and "T.T. Motor" LEDs causing mechanism control to turn off these motors.



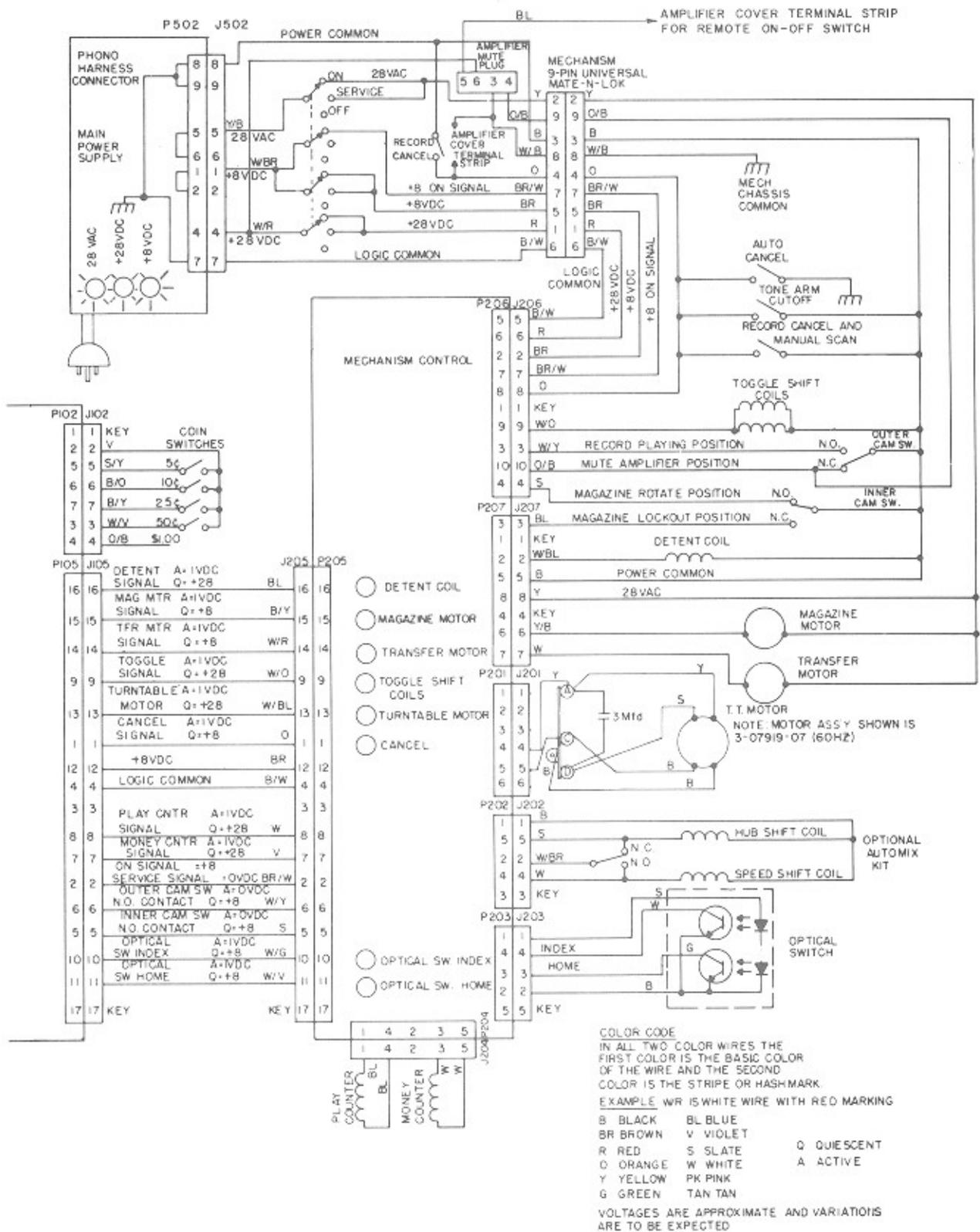
4. C.C.C. electronically searches its selection memory. If the memory contains one or more selections, sequences 8 thru 14 will be repeated.
5. If "order of play" switch is in as selected position, the selection will be located and played in the order they were selected.

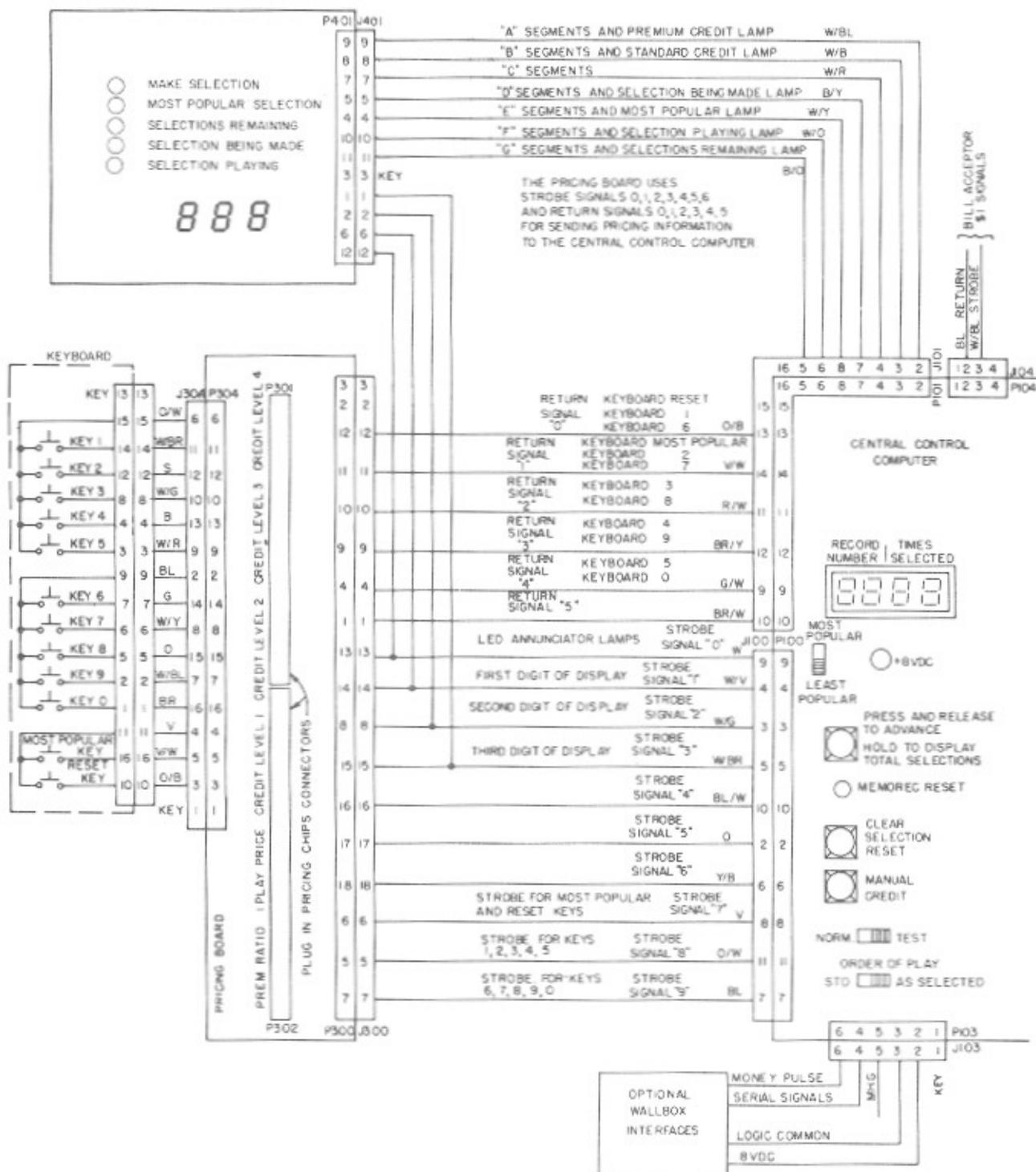


15

Phonograph returns to standby condition, most popular selection displayed.

1. All selections have been played.
2. Most popular LED and digital display flash and show most popular record on the phono. The diagram shows record "111" as the most popular.

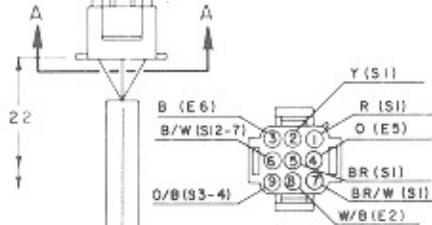




STATION * 6
CROSSOVER CONNECTOR

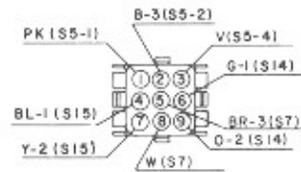
STATION * 2
MECH.

3-07491-05
7-00975-02
9 REQ'D



VIEW A-A

3-07490-05
7-00975-02
9 REQ'D

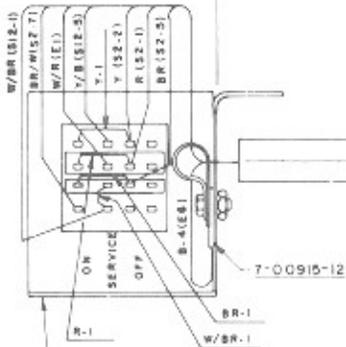


VIEW E-E

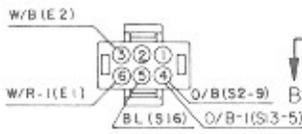
ALL HORIZONTAL
DIMENSIONS TAKEN
FROM THIS LINE

ALL VERTICAL
DIMENSIONS TAKEN
FROM THIS LINE

STATION * 1
SERVICE SWITCH



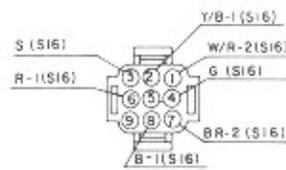
2-18697-01
7-00931-03
2-14944-01 2 REQ'D
7-00913-16 11 REQ'D
6-32x1/2 HEX. W/ H.M.S.
6-32 KEPS HEX. M.S. NUT



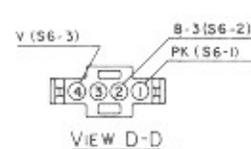
VIEW B-B

STATION * 3
MUTE

3-07491-04
7-00975-01 2 REQ'D
7-00975-03 2 REQ'D



VIEW C-C

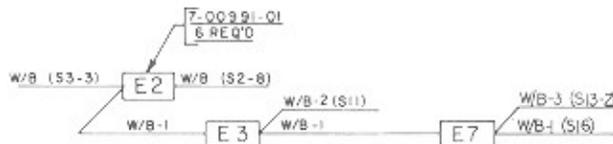


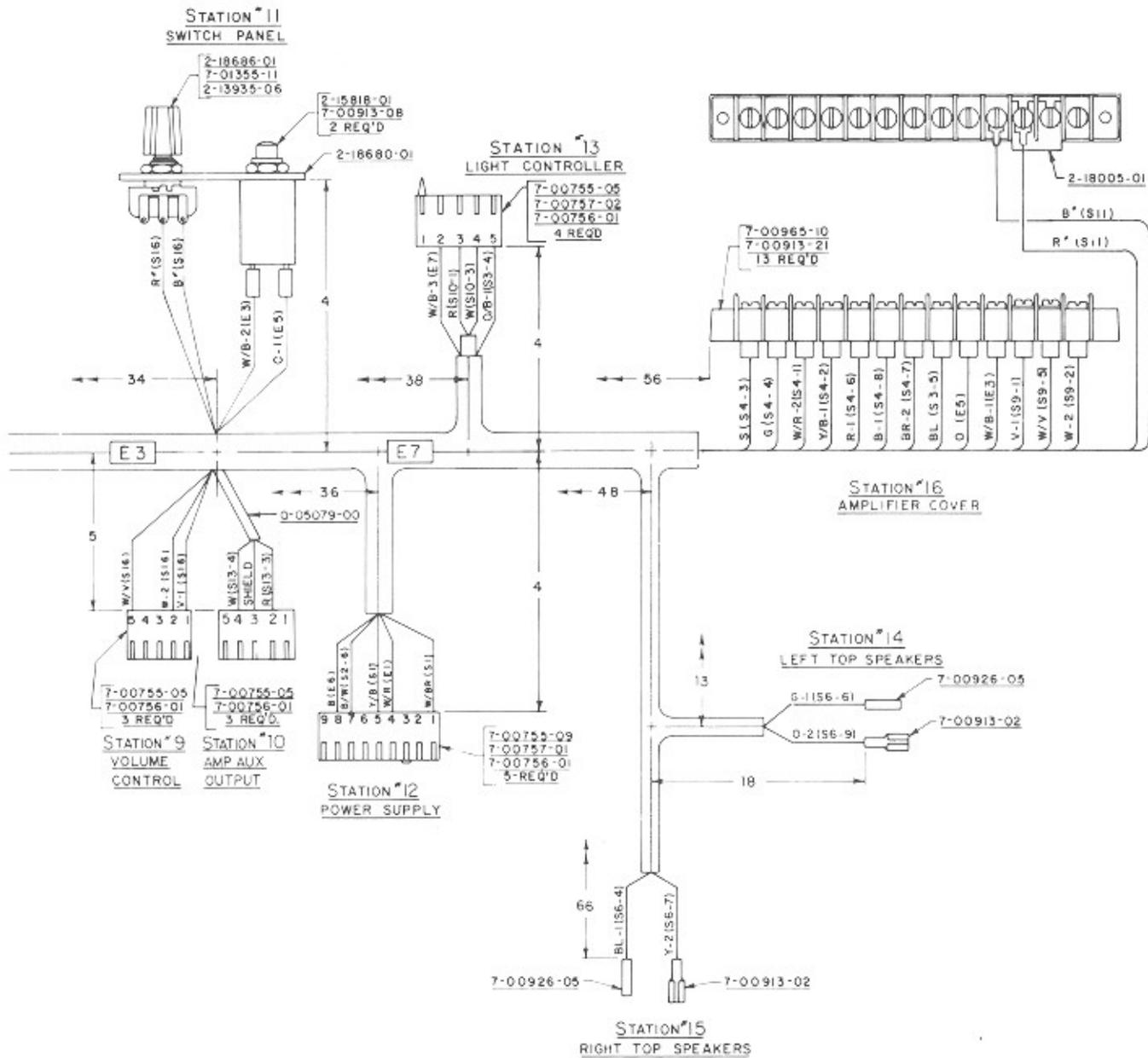
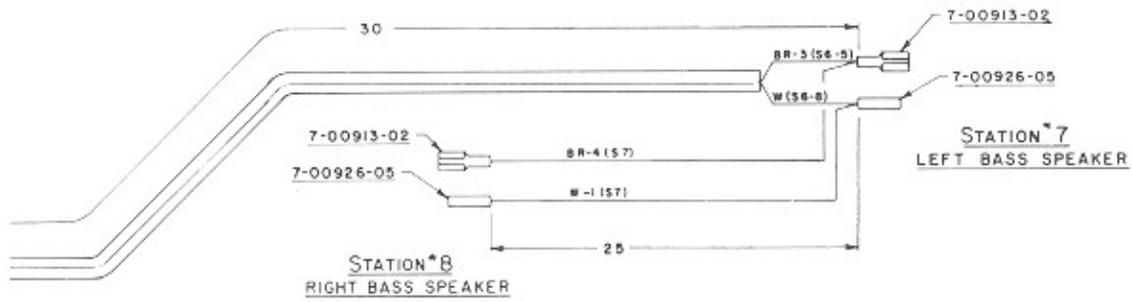
VIEW D-D

STATION * 4
EXTERNAL
SPEAKERS

STATION * 5
PHONO
SPEAKERS

3-07491-03
7-00975-01
3 REQ'D





QUIV. ENG'G. DRAWING 6-08972-04 B

R-87 WIRING DIAGRAM

SOUND SYSTEM QUICK CHECK

Rowe solid state sound systems are service designed for easy, fast repair. The following check list will enable locating troubles on location with your finger, a paper clip or an inexpensive VOM. Do not plug in or unplug circuit boards with power on. Checks should be made with the mechanism in the record playing position. Perform the checks in the order listed.

NO SOUND – BOTH CHANNELS

1. *Power - Second Level* – Check that the amplifier is plugged in and is receiving power from the junction box. Disconnect mute plug. Press the circuit breaker reset pushbutton on the amplifier chassis to make sure that it is not tripped. Application of power to the amplifier should result in an audible “thump” through the speaker.
2. *Volume Control* – Disconnect the volume control plug from the amplifier chassis and short out pins 3 (common) to pins 1, 2, and 4, 5. Full volume indicates an open volume control or line. If full volume at all times is the problem and disconnecting the volume control plug does not kill the sound replace the pre amp board.
3. *Cartridge Connections* – Make sure that the stylus is not bent or broken; replace if necessary. With a selection playing, unplug the tone arm cable from the amplifier. Press a finger against the plug pins and check for a hum in both sound channels. If hum is present, check cartridge wiring against the service manual; replace the cartridge if necessary.
4. *Extension Speakers* – To check if extension speakers are shorting out the amp, simply disconnect the extension speaker plug from the transformer package receptacle.
5. *Output Devices* – Visually inspect the driver board fuses for an open condition. If a fuse is open, replace the associated output device. The two devices used in each channel are not interchangeable; check the part number on the case and install an identical or equivalent replacement. Before mounting the device onto the heat sink, be sure that the heat sink surface is flat and that there are no burrs around the mounting holes to cause a short. Be sure that one and only one mica insulator is between the device and the heat sink and heat transfer compound (spec 53) is on both sides of insulator.

6. *Filter Capacitors* – Check for ± 2 VDC in the amplifier power supply. Connect the negative meter lead to ground and check the voltage at the terminals of the large electrolytic filter capacitors located on the amplifier chassis next to the power transformer. When taking readings on the capacitor with the outer shell isolated from chassis to one of the shell tabs, check that the voltage on each capacitor terminal is the same. A lowered voltage at one of the capacitor pins indicates that the capacitor may be defective and should be replaced, or that the bridge rectifier is defective. Another indication of defective filter capacitors is excessive hum in the sound output.
7. *Pre Amp Output* – Short all five of the volume control pins located on amp. Press finger against pins 1 or 3 (outside pins) labeled phono cartridge input and check for approximately 1 VAC at pre amp output (pins 3 or 5 of 13 pin connector-chassis common). Replace pre amp board if voltage is not present.

If voltage is present check center pin of output driver board for approximately 16 VAC. If voltage is not present make sure finger is pressed against the same outside pin with respect to channel that is being checked with volt meter.

NO SOUND, LOW SOUND OR DISTORTED SOUND RIGHT OR LEFT CHANNEL ONLY.

1. *Balance Control* – Adjust control for equal sound from each channel. Leave in mid position if adjustment is not possible.
2. *Reverse Cartridge Leads* – With a selection playing, reverse tone arm cable connections to the amplifier. If the sound switches channels, check cartridge connections against the service manual. Replace the cartridge if connections are O.K. Make sure that the stylus is not bent or broken; replace if necessary.
3. *Extension Speakers* – See Step 4 above.
4. *Output Devices* – See Step 5 above.
5. *Preamp* – See Step 7 above.
6. *Driver Boards* – If one driver board is defective, switch input to “Mono” and use one good channel in emergency.

**CONSTANT HIGH VOLUME –
CANNOT BE ADJUSTED AT VOLUME CONTROL**

1. *Volume Control* – Disconnect volume control plug from amplifier chassis. No sound indicates that there is a short in the volume control line.
2. *Preamp* – If there is full volume with control plug disconnected, replace the preamplifier board.

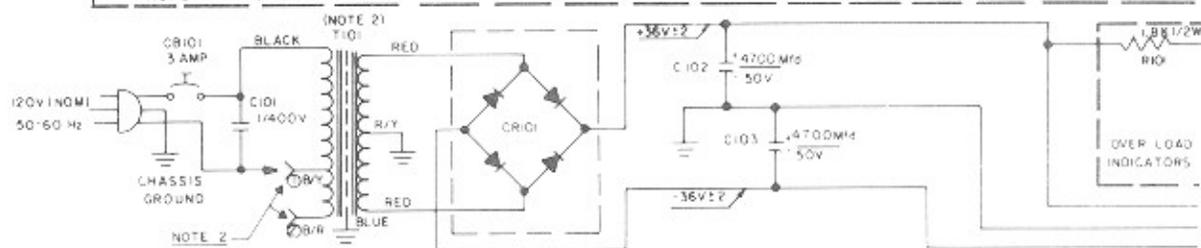
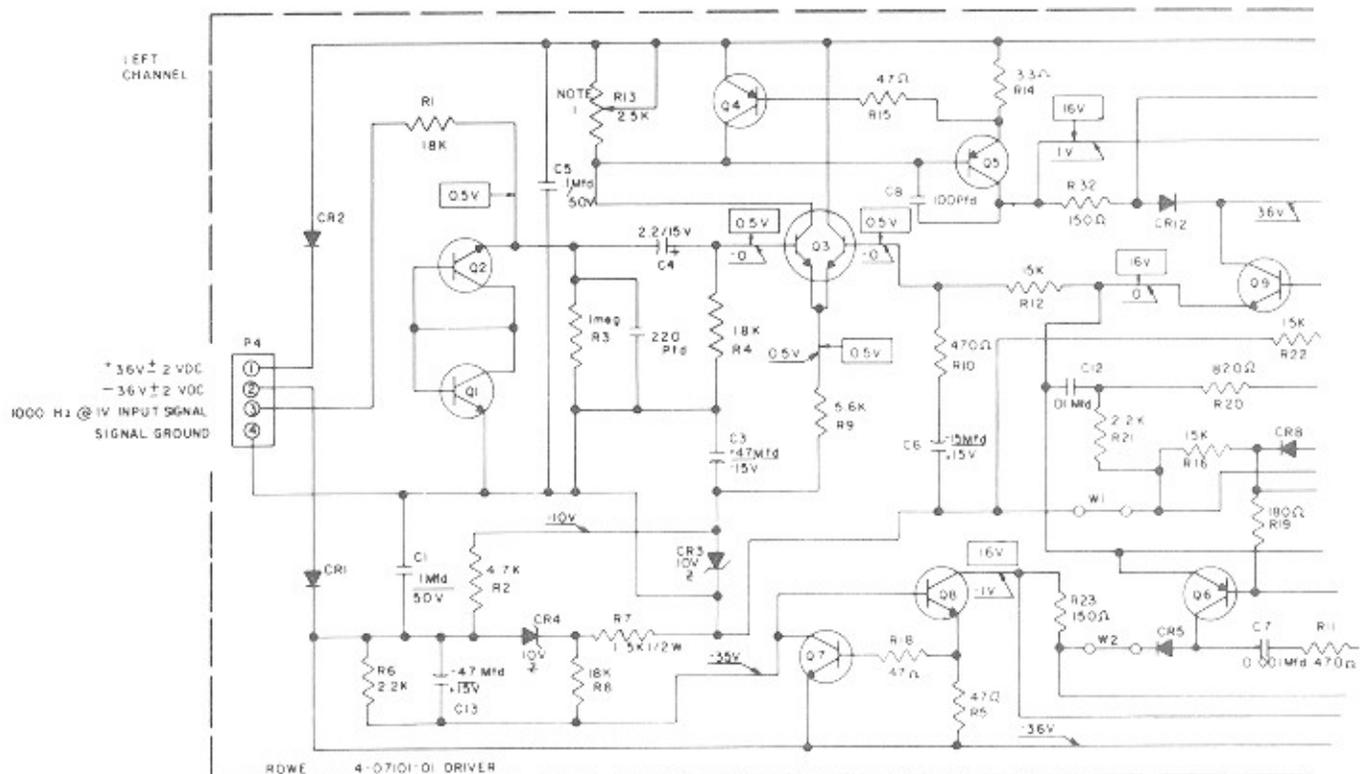
EXCESSIVE RECORD SCRATCH

1. *Worn Records* – Replace worn records.
2. *Damaged Stylus* – Make sure that the stylus is not worn or broken; replace if necessary. Check Stylus force.

3. *Treble Range Control Too High* – Reduce setting of control for worn or noisy records.

EXCESSIVE HUM, LOW VOLUME

1. *Open Shield* – Be sure that shield or wires are not broken between cartridge and the amplifier input plug.
2. *Cartridge Defective* – Substitute a good cartridge.
3. *Filter Capacitors* – Check filter capacitor, parallel an extra 500 Mfd. 50V capacitor in chassis. If hum drops, replace capacitor.

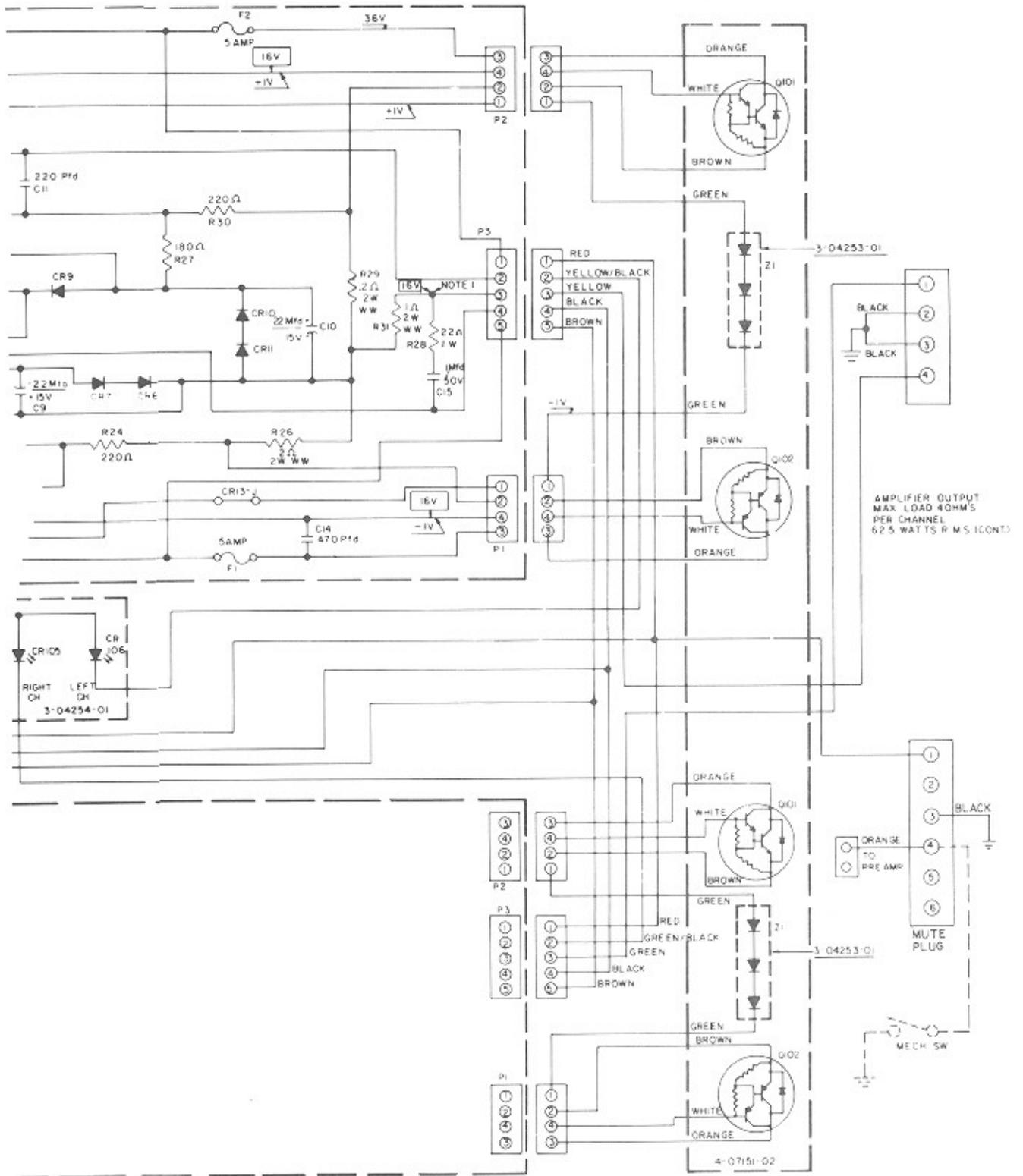


RIGHT CHANNEL

DRIVER BOARD SAME AS ABOVE

NOTES

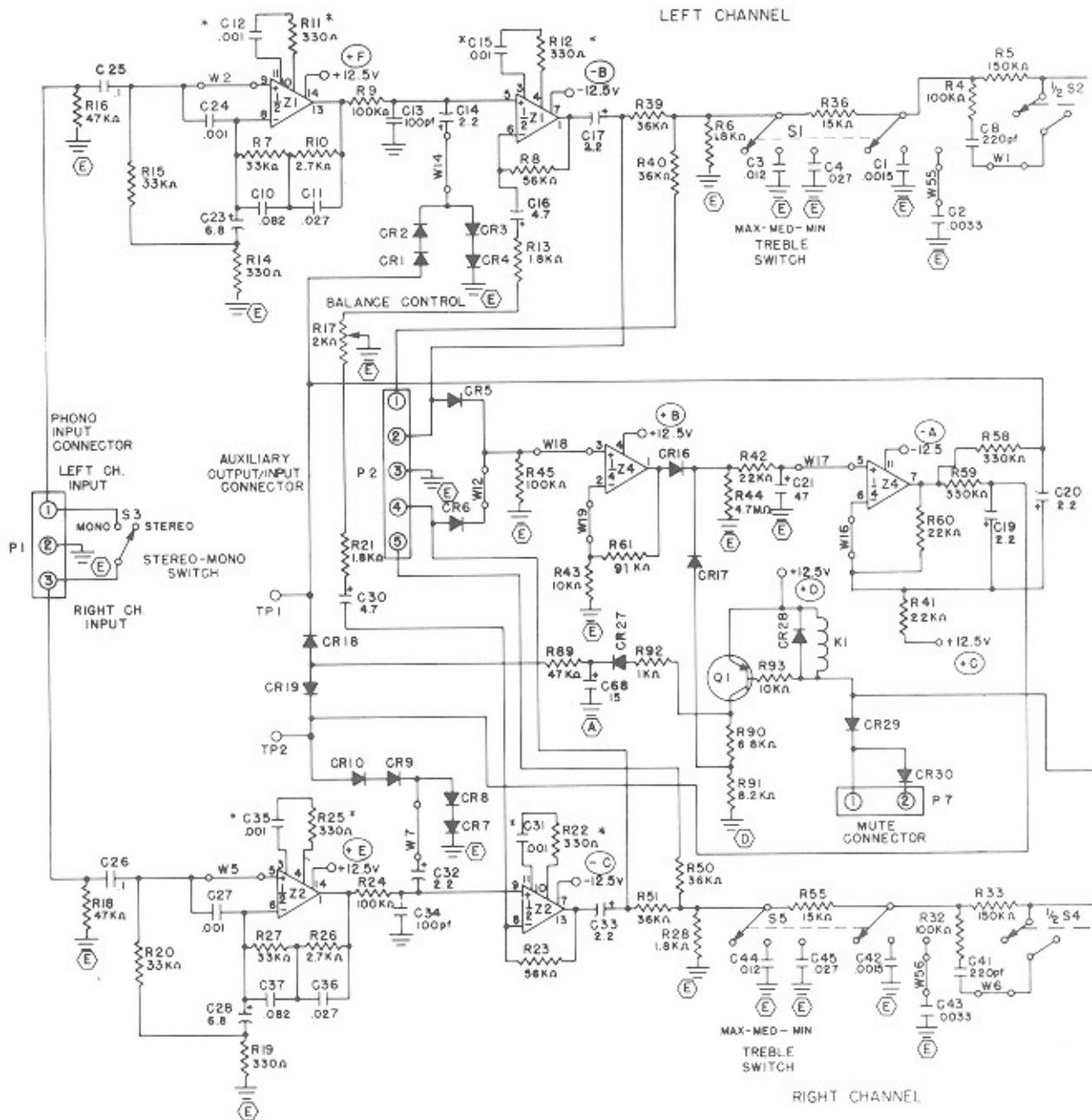
- 1 R13 POTENTIOMETER SET FOR 0V ± 0.005VDC @ OUTPUT NO LOAD (NO POWER PACK CONNECTED)
- 2 T101 TAPS (PRIMARY)
① 120V INOMI TO 132 MAX AC
② 132V TO 140V AC
- 3 ALL RESISTORS 1/4 WATT UNLESS OTHERWISE SPECIFIED
- 4 ALL VOLTAGE TAKEN WITH CHASSIS REFERENCE
- 5  INDICATES AC SIGNAL VOLTAGE NO LOAD
- 6  INDICATES DC VOLTAGES NO LOAD
- 7 IDLE CURRENT (Q1) OR (Q2) EMITTER 15 MA'S ± 10 MA'S



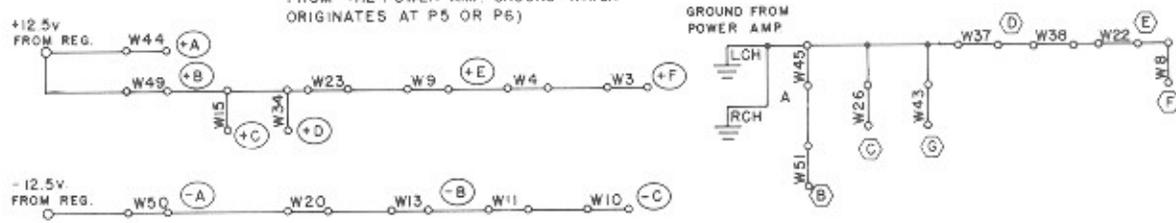
EQUIVALENT ENG'G DRAWING 6-07438-04-0-2 [E] 125W POWER AMPLIFIER SCHEMATIC DIAGRAM

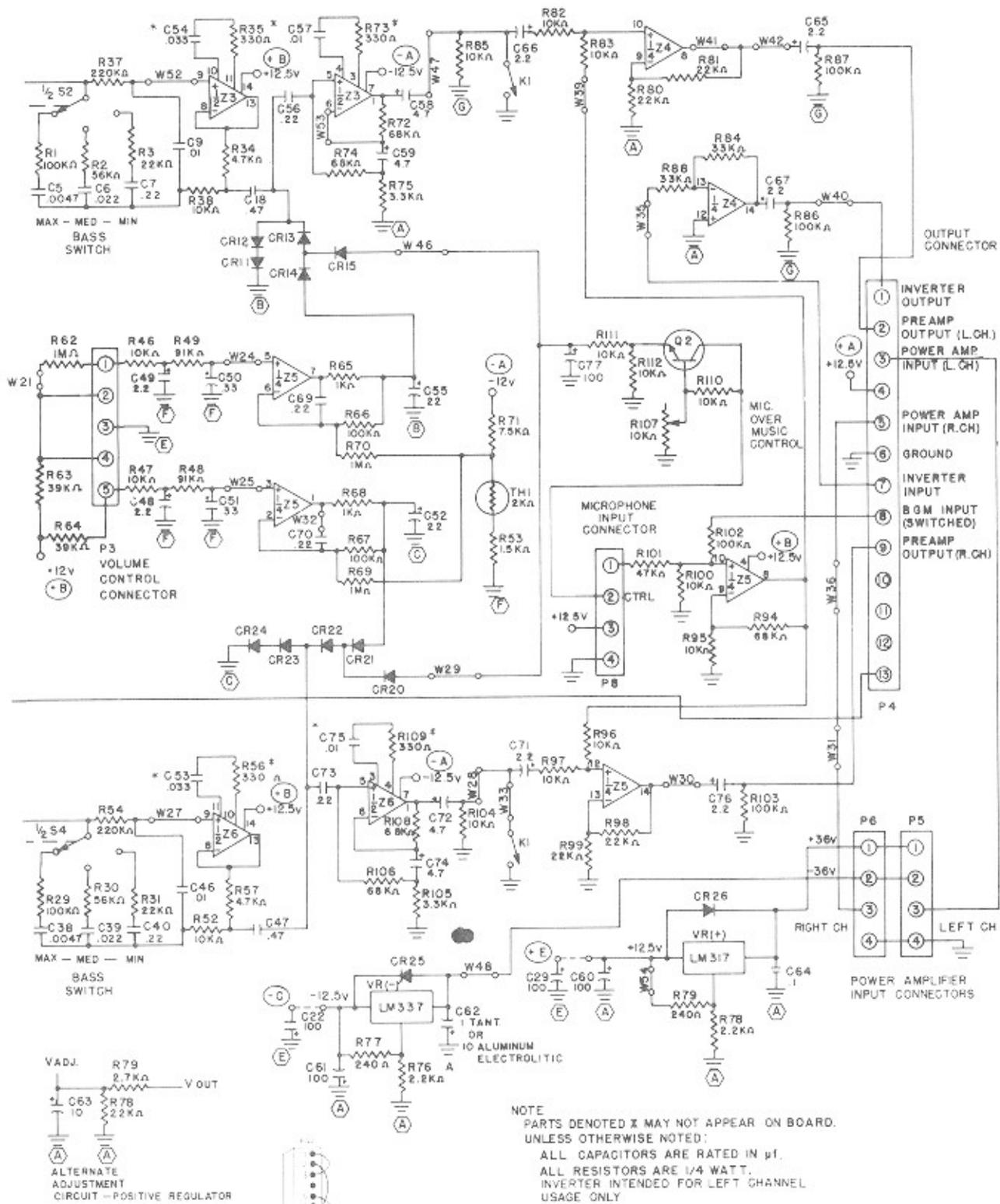
COMPONENT REF. DESIGNATION	DESCRIPTION	ROWE PART NO.
<u>125 W POWER AMPLIFIER 6-07438-04</u>		
C101	Capacitor, Mylar, 0.1 MFD, 400V (Paktron Type MB; Sprague Type 225P; Electromotive No. P91141-1)	7-00213-01
C102 to C103	Capacitor, Electrolytic, 4700 MFD, 50V	2-18231-01
CB101	Circuit Breaker, 3 Amp (ETA Products Co. Series 41-06-P30-1125)	7-00733-17
CR101	Bridge Rectifier	2-18225-01
Q101	Power Transistor (NPN Darlington)	7-00302-06
Q102	Power Transistor (PNP Darlington)	7-00302-07
T101	Transformer, Power	4-06337-01
	Overload Indicator	3-04254-01
MISCELLANEOUS PARTS		
	Cord and Plug Assembly	7-00502-02
	Strain Relief	7-02322-05
	Chassis Assembly with Lettering	6-07441-03
	Circuit Board Support (8 required)	7-05000-04
	Cap Housing - Combo Line	3-07490-03
	Cap Housing - Combo Line	3-07490-04
DRIVER BOARD ASSEMBLY 4-07101-01		
C1	Capacitor - Mylar (.10 MFD/100 VDC)	7-00240-02
C2	Capacitor - Disc (220 PFD/500 VDC)	7-00224-06
C3	Capacitor - Electrolytic (47/50 MFD/15 VDC)	7-00238-12
C4	Capacitor - Electrolytic (2.2 MFD/80 VDC)	7-00238-05
C5	Capacitor - Mylar (.10 MFD/100 VDC)	7-00240-02
C6	Capacitor - Electrolytic (15 MFD/50 VDC)	7-00238-09
C7	Capacitor - Disc (.01 MFD/100 VDC)	7-00224-21
C8	Capacitor - Disc (100 PFD/500 VDC)	7-00224-07
C9	Capacitor - Electrolytic (22/25 MFD/25 VDC)	7-00238-10
C10	Capacitor - Electrolytic (22/25 MFD/25 VDC)	7-00238-10
C11	Capacitor - Disc (220 PFD/500 VDC)	7-00224-06
C12	Capacitor - Disc (.01 MFD/100 VDC)	7-00224-21
C13	Capacitor - Electrolytic (47/50 MFD/15 VDC)	7-00238-12
C14	Capacitor - Disc (470 PFD/500 VDC)	7-00224-01
C15	Capacitor - Mylar (.10 MFD/100 VDC)	7-00240-02
CR1	Diode - Silicon	7-00350-02
CR2	Diode - Silicon	7-00350-02
CR3	Diode - Zener 10 V	7-00355-14
CR4	Diode - Zener 10 V	7-00355-14
CR5	Diode - Silicon	7-00350-02
CR6	Diode - Silicon	7-00350-02
CR7	Diode - Silicon	7-00350-02
CR8	Diode - Silicon	7-00350-02
CR9	Diode - Silicon	7-00350-02
CR10	Diode - Silicon	7-00350-02
CR11	Diode - Silicon	7-00350-02
CR12	Diode - Silicon	7-00350-02
CR13	Bare Wire	0-05039-00
F1	Fuse - 5 Amp	7-00720-10
F2	Fuse - 5 Amp	7-00720-10

COMPONENT REF. DESIGNATION	DESCRIPTION	ROWE PART NO.
P1	Polarizing Wafer Assembly	7-00750-04
P2	Polarizing Wafer Assembly	7-00750-04
P3	Polarizing Wafer Assembly	7-00750-05
P4	Non-Polarizing Wafer Assembly	7-00749-04
Q1	Transistor - NPN	7-00300-08
Q2	Transistor - NPN	7-00300-08
Q3	Transistor - Dual NPN	7-00303-01
Q4	Transistor - PNP	7-00301-04
Q5	Transistor - PNP	7-00301-04
Q6	Transistor - PNP	7-00301-04
Q7	Transistor - NPN	7-00300-08
Q8	Transistor - NPN	7-00300-08
Q9	Transistor - NPN	7-00300-08
R1	Resistor - Carbon (1/4 W 5%) (18 K)	7-9901-183
R2	Resistor - Carbon (1/4 W 5%) (4.7 K)	7-9901-472
R3	Resistor - Carbon (1/4 W 5%) (1 Meg)	7-9901-105
R4	Resistor - Carbon (1/4 W 5%) (18 K)	7-9901-183
R5	Resistor - Carbon (1/4 W 5%) (47 Ohm)	7-9901-470
R6	Resistor - Carbon (1/4 W 5%) (2.2 K)	7-9901-222
R7	Resistor - Carbon (1/2 W 10%) (1.5K)	7-00104-05
R8	Resistor - Carbon (1/4 W 5%) (18 K)	7-9901-183
R9	Resistor - Carbon (1/4 W 5%) (5.6 K)	7-9901-562
R10	Resistor - Carbon (1/4 W 5%) (470 Ohms)	7-9901-471
R11	Resistor - Carbon (1/4 W 5%) (470 Ohms)	7-9901-471
R12	Resistor - Carbon (1/4 W 5%) (16 K)	7-9901-163
R13	Resistor - Potentiometer, Linear (1/4 W) (2.5 K)	7-00400-01
R14	Resistor - Carbon (1/4 W 5%) (33 Ohms)	7-9901-330
R15	Resistor - Carbon (1/4 W 5%) (47 Ohms)	7-9901-470
R16	Resistor - Carbon (1/4 W 5%) (15 K)	7-9901-153
R17		
R18	Resistor - Carbon (1/4 W 5%) (47 Ohms)	7-9901-470
R19	Resistor - Carbon (1/4 W 5%) (180 Ohms)	7-9901-181
R20	Resistor - Carbon (1/4 W 5%) (820 Ohms)	7-9901-821
R21	Resistor - Carbon (1/4 W 5%) (2.2 K)	7-9901-222
R22	Resistor - Carbon (1/4 W 5%) (15 K)	7-9901-153
R23	Resistor - Carbon (1/4 W 5%) (150 Ohms)	7-9901-151
R24	Resistor - Carbon (1/4 W 5%) (220 Ohms)	7-9901-221
R25		
R26	Resistor - Wire Wound (2 W 10%) (.2 Ohms)	7-00126-01
R27	Resistor - Carbon (1/4 W 5%) (180 Ohms)	7-9901-181
R28	Resistor - Carbon (1 W 10%) (22 Ohms)	7-00108-16
R29	Resistor - Wire Wound (2 W 10%) (.2 Ohms)	7-00126-01
R30	Resistor - Carbon (1/4 W 5%) (220 Ohms)	7-9901-221
R31	Resistor - Wire Wound (2 W 10%) (.1 Ohms)	7-00126-02
R32	Resistor - Carbon (1/4 W 5%) (150 Ohms)	7-9901-151
W1 - W2	Bare Wire	0-05039-00
MISCELLANEOUS PARTS		
	Fuse Clip (4 required)	2-50775-00
	Drive Circuit Board (1 required)	4-07100-01



POWER SUPPLY JUMPER DIAGRAM
 +12.5v, -12.5v, AND GROUND CONNECTIONS
 (+12.5v, -12.5v LINE STARTING FROM EACH RESPECTIVE
 REGULATOR AND THE GROUND LINE STARTING
 FROM THE POWER AMP GROUND WHICH
 ORIGINATES AT P5 OR P6)





NOTE
PARTS DENOTED X MAY NOT APPEAR ON BOARD.
UNLESS OTHERWISE NOTED:
ALL CAPACITORS ARE RATED IN μ F.
ALL RESISTORS ARE 1/4 WATT.
INVERTER INTENDED FOR LEFT CHANNEL
USAGE ONLY

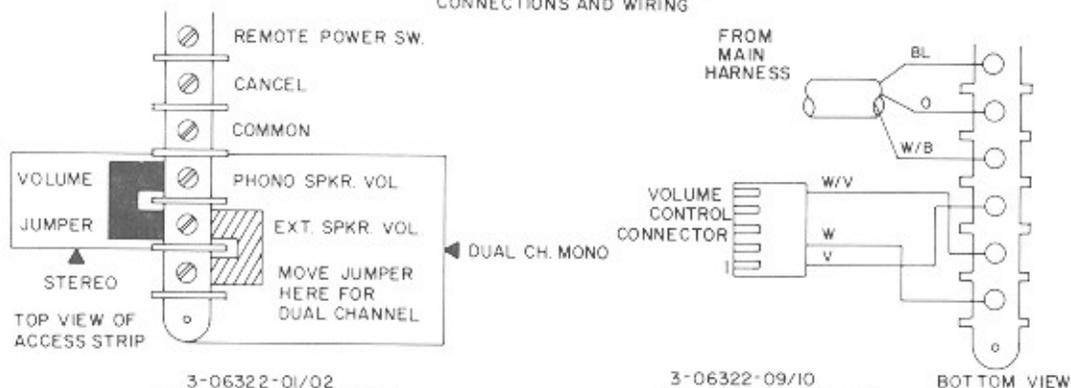
SCHEMATIC DIAGRAM STEREO
PREAMPLIFIER 6-07925-01-Q-2 B

COMPONENT LIST

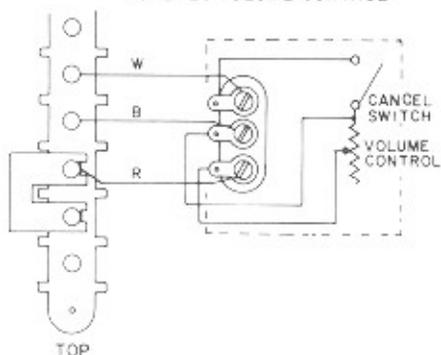
C1	Capacitor - Monolithic Ceramic	.0015 Mfd	7-00286-21	R13	Resistor - Carbon (1/4W - 5%)	1.8K	7-9901-182
C2	Capacitor - Monolithic Ceramic	.0033 Mfd	7-00286-27	R14	Resistor - Carbon (1/4W - 5%)	330 Ohms	7-9901-331
C3	Capacitor - Monolithic Ceramic	.012 Mfd	7-00286-38	R15	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333
C4	Capacitor - Mylar	.027 Mfd	7-00215-35	R16	Resistor - Carbon (1/4W - 5%)	4.7K	7-9901-473
C5	Capacitor - Monolithic Ceramic	.0047 Mfd	7-00286-30	R17	Potentiometer	2K	7-00400-12
C6	Capacitor - Monolithic Ceramic	.022 Mfd	7-00286-41	R18	Resistor - Carbon (1/4W - 5%)	4.7K	7-9901-473
C7	Capacitor - Mylar	.22 Mfd	7-00215-53	R19	Resistor - Carbon (1/4W - 5%)	330 Ohms	7-9901-331
C8	Capacitor - Monolithic Ceramic	.220 Pfd	7-00286-06	R20	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333
C9	Capacitor - Monolithic Ceramic	.01 Mfd	7-00286-37	R21	Resistor - Carbon (1/4W - 5%)	1.8K	7-9901-182
C10	Capacitor - Mylar	.082 Mfd	7-00215-47	R22	Not Used		
C11	Capacitor - Mylar	.022 Mfd	7-00215-35	R23	Resistor - Carbon (1/4W - 5%)	56K	7-9901-563
C12	Not Used			R24	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
C13	Capacitor - Monolithic Ceramic	100 Pfd	7-00286-01	R25	Not Used		
C14	Capacitor - Electrolytic	2.2 Mfd	7-00238-05	R26	Resistor - Carbon (1/4W - 5%)	2.7K	7-9901-272
C15	Not Used			R27	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333
C16	Capacitor - Electrolytic	4.7 Mfd	7-00238-06	R28	Resistor - Carbon (1/4W - 5%)	1.8K	7-9901-182
C17	Capacitor - Electrolytic	2.2 Mfd	7-00238-05	R29	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
C18	Capacitor - Mylar	.47 Mfd	7-00215-57	R30	Resistor - Carbon (1/4W - 5%)	56K	7-9901-563
C19-C20	Capacitor - Electrolytic	2.2 Mfd	7-00238-05	R31	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223
C21-C22	Capacitor - Electrolytic	100 Mfd	7-00238-14	R32	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
C23	Capacitor - Tantalum	6.8 Mfd	7-00251-20	R33	Resistor - Carbon (1/4W - 5%)	150K	7-9901-154
C24	Capacitor - Monolithic Ceramic	.001 Mfd	7-00286-18	R34	Resistor - Carbon (1/4W - 5%)	4.7K	7-9901-472
C25-C26	Capacitor - Mylar	.1 Mfd	7-00215-49	R35	Not Used		
C27	Capacitor - Monolithic Ceramic	.001 Mfd	7-00286-18	R36	Resistor - Carbon (1/4W - 5%)	15K	7-9901-153
C28	Capacitor - Tantalum	6.8 Mfd	7-00251-20	R37	Resistor - Carbon (1/4W - 5%)	220K	7-9901-223
C29	Capacitor - Electrolytic	100 Mfd	7-00238-14	R38	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
C30	Capacitor - Electrolytic	4.7 Mfd	7-00238-06	R39-R40	Resistor - Carbon (1/4W - 5%)	36K	7-9901-363
C31	Not Used			R41-R42	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223
C32-C33	Capacitor - Electrolytic	2.2 Mfd	7-00238-05	R43	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
C34	Capacitor - Monolithic Ceramic	100 Pfd	7-00286-01	R44	Resistor - Carbon (1/4W - 5%)	4.7M	7-9901-475
C35	Not Used			R45	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
C36	Capacitor - Mylar	.022 Mfd	7-00215-35	R46-R47	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
C37	Capacitor - Mylar	.082 Mfd	7-00215-47	R48-R49	Resistor - Carbon (1/4W - 5%)	91K	7-9901-913
C38	Capacitor - Monolithic Ceramic	.0047 Mfd	7-00286-30	R50-R51	Resistor - Carbon (1/4W - 5%)	36K	7-9901-363
C39	Capacitor - Monolithic Ceramic	.022 Mfd	7-00286-41	R52	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
C40	Capacitor - Mylar	.22 Mfd	7-00215-53	R53	Resistor - Carbon (1/4W - 5%)	1.5K	7-9901-152
C41	Capacitor - Monolithic Ceramic	.220 Pfd	7-00286-06	R54	Resistor - Carbon (1/4W - 5%)	220K	7-9901-224
C42	Capacitor - Monolithic Ceramic	.0015 Mfd	7-00286-21	R55	Resistor - Carbon (1/4W - 5%)	15K	7-9901-153
C43	Capacitor - Monolithic Ceramic	.0033 Mfd	7-00286-27	R56	Not Used		
C44	Capacitor - Monolithic Ceramic	.012 Mfd	7-00286-38	R57	Resistor - Carbon (1/4W - 5%)	4.7K	7-9901-472
C45	Capacitor - Mylar	.027 Mfd	7-00215-35	R58-R59	Resistor - Carbon (1/4W - 5%)	330K	7-9901-334
C46	Capacitor - Monolithic Ceramic	.01 Mfd	7-00286-37	R60	Resistor - Carbon (1/4W - 5%)	91K	7-9901-913
C47	Capacitor - Mylar	.47 Mfd	7-00215-57	R61	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
C48-C49	Capacitor - Electrolytic	2.2 Mfd	7-00238-05	R62	Resistor - Carbon (1/4W - 5%)	1M	7-9901-105
C50-C51	Capacitor - Tantalum	.33 Mfd	7-00251-19	R63-R64	Resistor - Carbon (1/4W - 5%)	39K	7-9901-393
C52	Capacitor - Electrolytic	22 Mfd	7-00238-10	R65	Resistor - Carbon (1/4W - 5%)	1K	7-9901-102
C53-C54	Not Used			R66-R67	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
C55	Capacitor - Electrolytic	22 Mfd	7-00238-10	R68	Resistor - Carbon (1/4W - 5%)	1K	7-9901-102
C56	Capacitor - Mylar	.22 Mfd	7-00215-53	R69-R70	Resistor - Carbon (1/4W - 5%)	1M	7-9901-105
C57	Not Used			R71	Resistor - Carbon (1/4W - 5%)	7.5K	7-9901-752
C58-C59	Capacitor - Electrolytic	4.7 Mfd	7-00238-06	R72	Resistor - Carbon (1/4W - 5%)	68K	7-9901-683
C60-C61	Capacitor - Electrolytic	100 Mfd	7-00238-14	R73	Not Used		
C62	Capacitor - Electrolytic	10 Mfd	7-00238-08	R74	Resistor - Carbon (1/4W - 5%)	68K	7-9901-683
C63	Not Used			R75	Resistor - Carbon (1/4W - 5%)	3.3K	7-9901-332
C64	Capacitor - Monolithic Ceramic	.1 Mfd	7-00285-14	R76	Resistor - Carbon (1/4W - 5%)	2.2K	7-9901-222
C65-C67	Capacitor - Electrolytic	2.2 Mfd	7-00238-05	R77	Resistor - Carbon (1/4W - 5%)	240 Ohms	7-9901-241
C68	Capacitor - Electrolytic	15 Mfd	7-00238-09	R78	Resistor - Carbon (1/4W - 5%)	2.2K	7-9901-222
C69-C70	Capacitor - Monolithic Ceramic	.22 Mfd	7-00285-10	R79	Resistor - Carbon (1/4W - 5%)	240 Ohms	7-9901-241
C71	Capacitor - Electrolytic	2.2 Mfd	7-00238-05	R80-R81	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223
C72	Capacitor - Electrolytic	4.7 Mfd	7-00238-06	R82-R83	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
C73	Capacitor - Mylar	.22 Mfd	7-00215-53	R84	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333
C74	Capacitor - Electrolytic	4.7 Mfd	7-00238-06	R85	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
C75	Not Used			R86-R87	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
C76	Capacitor - Electrolytic	2.2 Mfd	7-00238-05	R88	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333
C77	Capacitor - Electrolytic	100 Mfd	7-00238-14	R89	Resistor - Carbon (1/4W - 5%)	4.7K	7-9901-473
CR1-CR24	Diode - Silicon		7-00350-07	R90	Resistor - Carbon (1/4W - 5%)	6.8K	7-9901-682
CR25-CR26	Diode - Silicon		7-00350-05	R91	Resistor - Carbon (1/4W - 5%)	8.2K	7-9901-822
CR27	Diode - Silicon		7-00350-07	R92	Resistor - Carbon (1/4W - 5%)	1K	7-9901-102
CR28-CR30	Diode - Silicon		7-00350-05	R93	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
				R94	Resistor - Carbon (1/4W - 5%)	68K	7-9901-683
K1	Relay - Reed		7-00422-07	R95-R97	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
P1	Non-Polarized Wafer Assembly	(3 Ckt)	7-00749-21	R98-R99	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223
P2-P3	Non-Polarized Wafer Assembly	(5 Ckt)	7-00749-23	R100	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
P4	Non-Polarized Wafer Assembly	(13 Ckt)	7-00749-31	R101	Resistor - Carbon (1/4W - 5%)	4.7K	7-9901-473
P5-P6	P. C. Bd. Connector - Top Entry	(4 Ckt)	7-00748-02	R102-R103	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104
P7	Polarized Wafer Assembly	(2 Ckt)	7-00750-02	R104	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
P8	Non-Polarized Wafer Assembly	(5 Ckt)	7-00749-23	R105	Resistor - Carbon (1/4W - 5%)	3.3K	7-9901-332
Q1	Transistor - Silicon PNP		7-00301-04	R106	Resistor - Carbon (1/4W - 5%)	68K	7-9901-683
Q2	Transistor - Silicon NPN		7-00300-08	R107	Potentiometer	10K	7-00400-14
				R108	Resistor - Carbon (1/4W - 5%)	68K	7-9901-683
R1	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104	R109	Not Used		
R2	Resistor - Carbon (1/4W - 5%)	56K	7-9901-563	R110-R112	Resistor - Carbon (1/4W - 5%)	10K	7-9901-103
R3	Resistor - Carbon (1/4W - 5%)	22K	7-9901-223	S1-S2	Switch - Slide		3-07862-03
R4	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104	S3	Switch - Slide		3-07862-02
R5	Resistor - Carbon (1/4W - 5%)	150K	7-9901-154	S4-S5	Switch - Slide		3-07862-03
R6	Resistor - Carbon (1/4W - 5%)	1.8K	7-9901-182	TH1	Thermistor		7-00370-02
R7	Resistor - Carbon (1/4W - 5%)	33K	7-9901-333	VR+	Voltage Regulator - Positive		7-00365-07
R8	Resistor - Carbon (1/4W - 5%)	56K	7-9901-563	VR-	Voltage Regulator - Negative		7-00365-08
R9	Resistor - Carbon (1/4W - 5%)	100K	7-9901-104	Z1-Z3	IC - Stereo Preamplifier		3-08002-06
R10	Resistor - Carbon (1/4W - 5%)	2.7K	7-9901-272	Z4-Z5	IC - Quad Op Amp		3-08002-15
R11-R12	Not Used			Z6	IC - Stereo Preamplifier		3-08002-06
				WI-W55	Jumper - Bare Wire		0-05039-00

PARTS LIST STEREO PREAMPLIFIER 6-07925-01

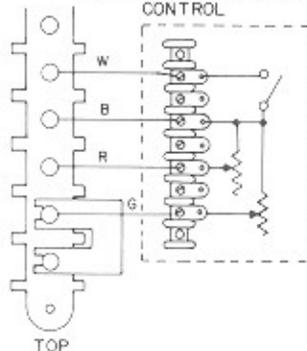
REMOTE VOLUME CONTROL
CONNECTIONS AND WIRING



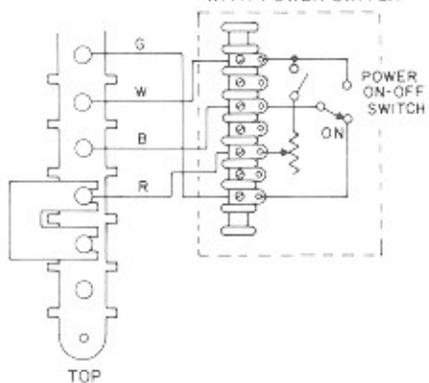
3-06322-01/02
STEREO VOLUME CONTROL



3-06322-09/10
DUAL CHANNEL VOLUME CONTROL



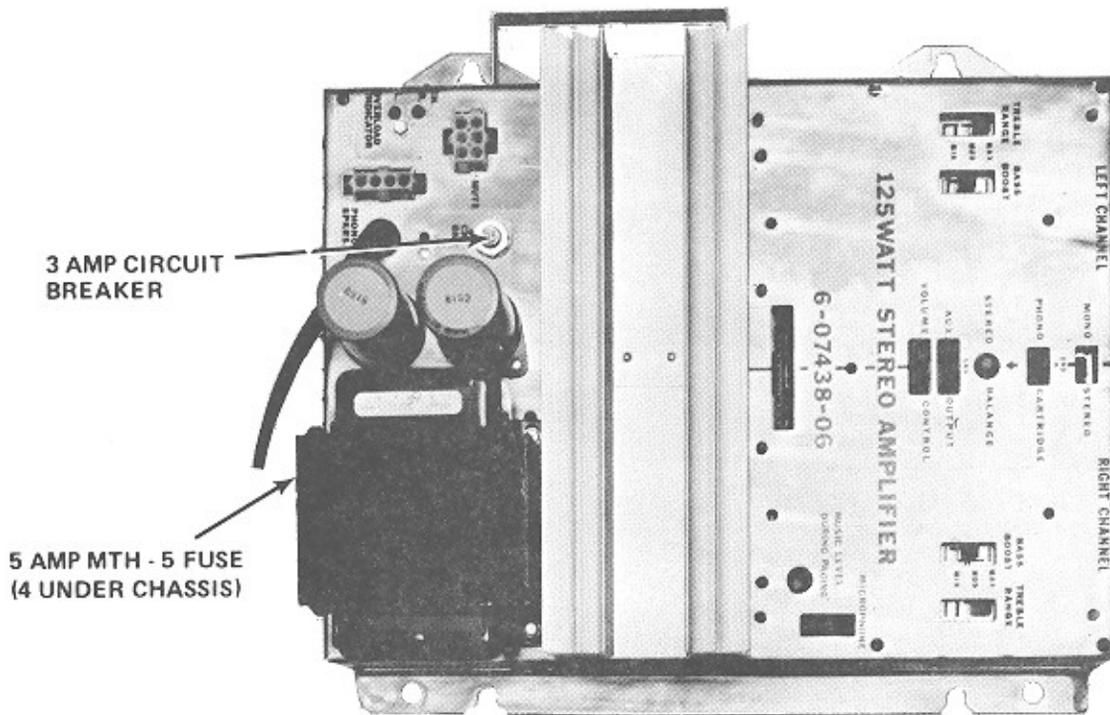
3-06322-11
STEREO VOLUME CONTROL
WITH POWER SWITCH



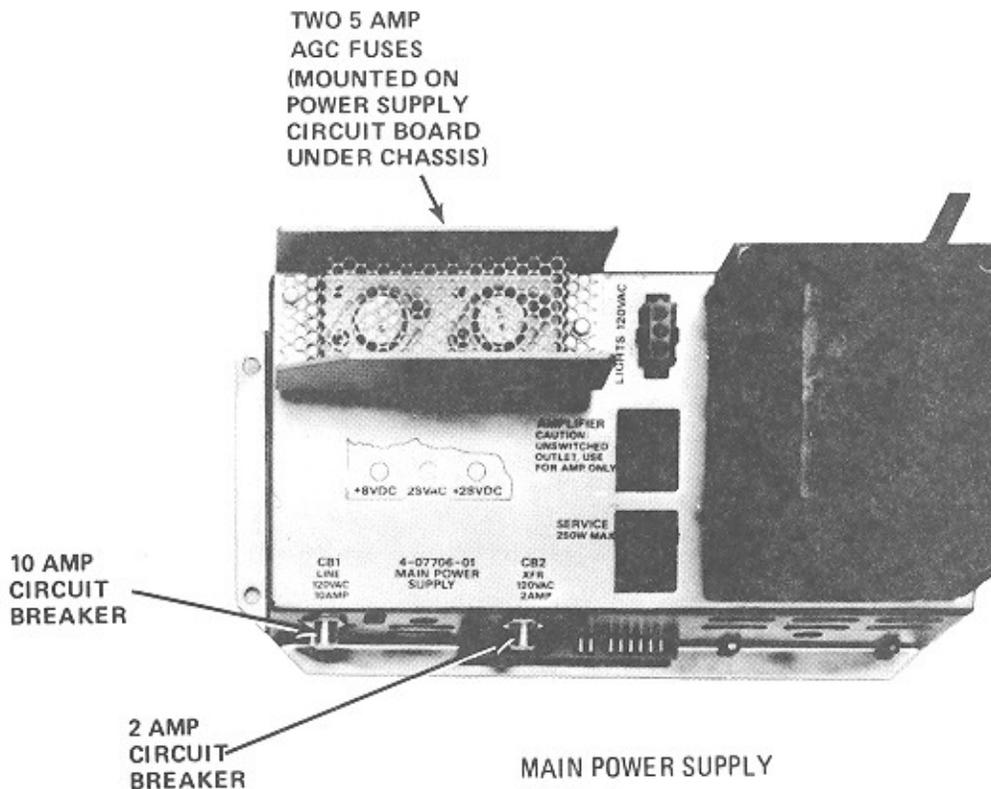
NOTE: WHEN USING ANY REMOTE VOLUME CONTROL, REMOVE THE RED AND BLACK WIRES NORMALLY CONNECTED TO THE PHONO ACCESS STRIP. THIS DISCONNECTS THE VOLUME CONTROL ON THE BACK OF THE PHONOGRAPH.

SECTION 5- ADDITIONAL INFORMATION

PHONOGRAPH FUSES AND CIRCUIT BREAKERS

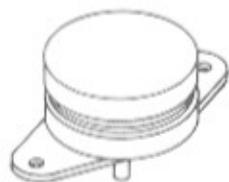


125 WATT AMPLIFIER



LOCATION OF FUSES AND CIRCUIT BREAKERS

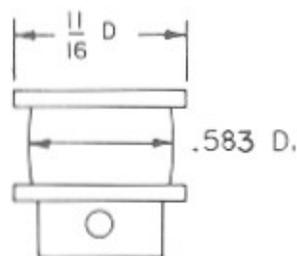
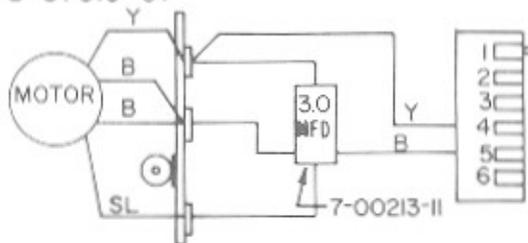
TURNTABLE MOTOR PART
NUMBER AND IDENTIFYING
FEATURES



3-07920-04, MFG.
BY NORTH AMER.
PHILIPS, LABELED
A81743-M5, HAS
FLAT BOTTOM
COVER NO FLAT
ON SHAFT.

60Hz MOTOR ASSEMBLY
ACTUAL CAPACITORS SHOWN
ARE TYPICAL. TOTAL CAP. VALUES
MAY HAVE BEEN OBTAINED BY
OTHER COMBINATIONS. CAPS.
ARE 100V.

3-07919-07

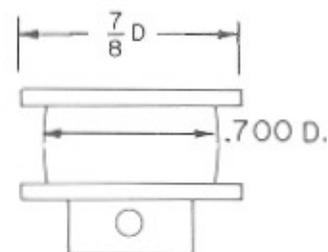
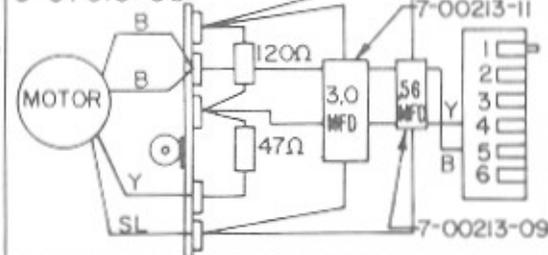


CLEAR ANODIZED
ALUMINUM

T.T. MOTOR PULLEY
2-18178-01

50Hz MOTOR ASSEMBLY
ACTUAL CAPACITORS SHOWN
ARE TYPICAL. TOTAL CAP. VALUES
MAY HAVE BEEN OBTAINED BY
OTHER COMBINATIONS. CAPS.
ARE 100V, RESISTORS 2W.

3-07919-08



RED ANODIZED
ALUMINUM

T.T. MOTOR PULLEY
2-18178-02

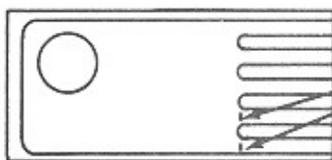
CAPABILITY CHART

	DESCRIPTION				CTI-2	CTI-3	R-8u	R-85	R-86	R-87	RI-3	RI-4, RI-5	HHL
	PART #	CHIP	ROM										
CENTRAL CONTROL COMPUTER	6-08870-01 6-08870-02 6-08870-04 6-08870-05 6-08870-06	7-00390-01 6-08988-01 7-00390-03 6-08988-04 7-00390-04	NONE 7-00391-04 NONE 7-00391-07 NONE	-01 CHIP, NO FIFO PIGGY BACK, NO FIFO -03 CHIP, RI-3, FIFO PIGGY BACK, RI-3, NO FIFO -04 CHIP HOSTEK 3870	STD STD NOTE B,C NOTE B,C NOTE B,C	NOTE A NOTE A NOTE B,C NOTE B,C NOTE B,C	STD STD NOTE C,B NOTE C,B NOTE C,B	NOTE A NOTE A STD STD STD	NOTE A NOTE A STD STD STD	NOTE A NOTE A NOTE S NOTE S NOTE S	NOTE A NOTE A STD STD STD	NOTE A NOTE A NOTE A NOTE A NOTE A	NOTE A NOTE A NOTE S NOTE S NOTE S
PRICE BOARD	6-08878-01 6-08878-02 6-08878-03 6-08878-04 6-08878-05	15 PLAY/COIN MAX. LIMITED LEVEL RATIO 15 PLAY/COIN MAX. LIMITED LEVEL RATIO DIODES 353 & 354 ADDED. NOTE G DIODES 353 & 354 ADDED. NOTE G			STD ---- STD ---- ----	NOTE E ---- STD ---- ----	---- STD ---- NOTE F ----	---- NOTE E ---- STD ----	---- NOTE E ---- STD ----	---- NOTE E ---- STD ----	---- NOTE V ---- NOTE V ----	---- NOTE V ---- NOTE V ----	---- NOTE E ---- STD ----
WALLBOX INTER-FACE	6-07467-01 6-07467-02 6-07467-03 2-66985-01	7-00390-02 7-00390-02 7-00390-02	NONE NONE NONE NONE	WRD WRD-WRC WRD-HHG-1P1 WRD PHONO HARNESS	NOTE H NOTE H NOTE H STD	STD STD STD STD	STD STD STD STD	STD STD STD STD	STD STD STD STD	STD STD STD STD	STD STD STD STD	STD STD STD STD	STD STD STD STD
AMPLIFIER	6-07439-05 6-07439-06 6-07439-02 6-07439-03 6-09166-01 6-09189-01 6-09189-02	125 WATT - INCLUDES OUTPUT TRANSFORMERS 125 WATT - INCLUDES OUTPUT TRANSFORMERS 125 WATT - INCLUDES OUTPUT TRANSFORMERS 125 WATT - KIT FOR RI-3 INCLUDES ADAPTORS 50 WATT - RI-3 ONLY 50 WATT RI-4, RI-5 50 WATT RI-4, RI-5			NOTE J NOTE J STD STD ---- ---- ----	STD STD STD STD ---- ---- ----	NOTE J NOTE J STD STD ---- ---- ----	NOTE J NOTE J STD STD ---- ---- ----	NOTE J NOTE J STD STD ---- ---- ----	NOTE J NOTE J STD STD ---- ---- ----	STD OK NOTE I STD STD STD STD	OK ---- NOTE I STD STD STD STD	NOTE U STD NOTE J ---- ---- ---- ----
MECH ASS'Y	6-08700-01	-01 = 60 HZ -02 = 50 HZ			STD	STD	STD	STD	STD	STD	STD	STD	STD
MECH CONTROL	4-07221-01 4-07221-02	BOTTOM MOUNT SCREW TO MECH TOP MOUNT SCREW TO MECH			STD STD	---- STD	STD STD	NOTE K STD	---- STD	---- STD	NOTE K STD	NOTE K STD	NOTE K STD
POWER SUPPLY	4-07313-01 4-65087-01 4-07706-01 4-65092-01	DOMESTIC 120V EXPORT DOMESTIC 120V EXPORT			STD NOTE M ---- ----	---- ---- STD NOTE N	STD NOTE M ---- ----	STD NOTE M ---- ----	---- NOTE M ---- ----	---- NOTE M ---- ----	---- NOTE M ---- ----	STD ---- ---- ----	---- NOTE N ---- ---- ----
FLASHING LIGHT CONTROL	4-07169-02 4-07501-01 4-07501-02	CHASE PATTERN - 1 CIRCUIT ON, 3 OFF CHASE PATTERN - 3 CIRCUITS ON, 1 OFF			---- ---- ----	---- ---- ----	---- ---- ----	---- NOTE P ----	---- NOTE P ----	---- NOTE P ----	---- NOTE P ----	---- NOTE P ----	---- ---- ----
BA-5 BILL ACCEP BA-55	2-66971-01 2-66971-03 2-66971-07 2-66971-10 2-66971-12 2-67013-01	DOLLAR BILL ACCEPTOR KIT DOLLAR BILL ACCEPTOR KIT S1 AND S5 BILL ACCEPTOR KIT DOLLAR BILL ACCEPTOR KIT S1 AND S5 BILL ACCEPTOR KIT S1 AND S5 BILL ACCEPTOR KIT			STD ---- ---- ---- ---- ----	---- ---- ---- ---- ---- STD	---- STD ---- ---- ---- ----	---- STD ---- ---- ---- ----	---- STD ---- ---- ---- ----	---- STD ---- ---- ---- ----	---- STD ---- ---- ---- ----	---- NOTE Q ---- ---- ---- ----	---- NOTE Q ---- ---- ---- ----

- A. OK - SAME FEATURES AS R-84.
- B. OK - SAME FEATURES AS R-85 IF -03 OR -04 PRICE BD.
- C. OK - SAME FEATURES AS R-84 IF -01 OR -02 PRICE BD.
- D. DIODES 353 & 354 NOT AVAIL. #334 GIVES 160 PLAYS.
- E. OK BUT SAME PRICE FEATURES AS R-84.
- F. OK BUT SAME PRICE FEATURES AS R-84 UNLESS COMPATIBLE COMPUTER BOARD USED.
- G. ADDED CR. LEVEL RATIOS. ADDED 16 PLAY DIODE. CHANGED 120 TO 160 PLAY (LABELLED RI-3) = 6-08878-05.
- H. 6-08988-02 PIGGY BACK ALTERNATE USING PROM.
- I. NEEDS SPECIAL TONE ARM CABLE AND VOL. CONTROL (INCLUDED IN KIT).
- J. NEEDS SPECIAL ADAPTOR HARNESS.
- K. OK REMOVE MECH MOUNT PLATE AND MOUNT TO BOTTOM FRAME.
- L. OK MOUNT TO BOTTOM BRACKET.
- M. 4-65087-01 = 120V, 4-65084-02 = 220V, 4-65087-03 = 240V.
- N. 4-65092-01 = 120V, 4-65092-02 = 220V, 4-65092-03 = 240V.
- O. INTERCHANGEABLE.
- P. INTERCHANGEABLE.
- Q. USE R-86 POWER HARNESS FOR BA-5, 3-50693-02.
- R. USE R-85 POWER HARNESS FOR BA-5, 3-50693-01.
- S. OK BUT NO LONGER IN PRODUCTION.
- T. INTERCHANGEABLE WITH 6-07439-04.
- U. STD AFTER DEC 1, 1982.
- V. ADD DIODE FOR 160 PLAY.



INDIVIDUAL PRICING INSERT 2-18507-01/16



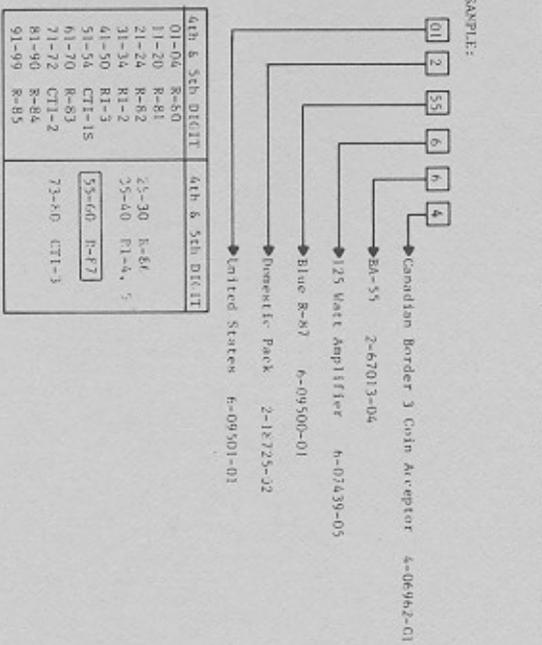
INSERTS MAY BE CHANGED
BY CUTTING RUNNERS

SECTION 6-PARTS CATALOG

	PAGE
INTRODUCTION	79
DESCRIPTION	79
ORDERING REPLACEMENT PARTS	79
PARTS BREAKDOWN	79

FIGURE		
1	Phonograph Assembly, Model R-87	80
2	Front Door Assembly	92
3	Top Door Assembly	96
4	Selector and Grille Assembly	100
5	Lamp Control Assembly	102
6	Shell Assembly	103
7	Stereo Amplifier System Assembly	104
8	Heat Sink Assembly	106
9	Output Transformer Assembly	108
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11	Main Power Supply	112
12	Mechanism Assembly	114
13	Tone Arm and Pivot Assembly	122
14	Sprag Assembly	123
15	Cam Switch and Motor Assembly	124

COUNTRY	1st & 2nd DIGIT	PACK	R-87 SUB-ASS'Y	AMPLIFIER	BILL ACCEPTOR	COIN ACCEPTOR
		3rd DIGIT	4th & 5th DIGIT	6th DIGIT	7th DIGIT	8th DIGIT
01 - US	6-09501-01	1 = Dhpwrk = 2-18725-01	55 = Saphire 7 6-09500-01	0 = None	0 = None	0 = None
02 - Ays	6-09501-02	2 = Dhpwrk = 2-18725-02	56 = Colden 7	1 =	1 =	1 = 3 Coin Acceptor = 4-06964-01
03 - Austral	6-09501-03		57 = Saphire 7 (Canada)	2 =	2 = Autocoin Kit = 2-66681-07	2 = 4 Coin Acceptor = 4-07156-01
04 - Aus			58 = Colden 7 (Canada)	3 =	3 =	3 = Export Selector (Special) 7-09519-XX
05 - Bah		3 = Expck = 2-18725-03	59 = Colden 7A	4 =	4 =	4 = 3 Coin Canadian Border = 4-08962-01
06 - Belg			60 = Colden 7A (Canada)	5 = 50% = 6-09189-02	5 =	5 = 4 Coin Canadian Border = 4-07159-01 (5,10,25,50)
07 - Canada				6 = 125% = 6-07439-05	6 = BA-55 = 2-67013-04	6 = 4 Coin \$ Acceptor = 4-07156-02 (5, 10, 25, \$)
08 - Chile		4 = Sp'1 Pack = ?		7 = 125% = 4-07439-06		7 = 2 Coin Acceptor = 4-07156-03 (25, \$)
09 - Col				Canada		8 = 2 Coin Acceptor = 4-07159-02 (5,10,25,\$)
10 - Costa R						9 = Canadian Border \$ = 4-07159-02 (5,10,25,\$)
11 - Neutral Stock						
12 - Denmark						
13 - Ecuador						
14 - El Salw						
15 - England						
16 - Finland						
17 - France						
18 - Germany						
19 -						
20 - Guat						
21 - Holland						
22 - Hon						
23 - Italy						
24 - Belize						
25 - Japan						
26 -						
27 - Xic						
28 - Norway						
29 - Araba						
30 - Panama						
31 - Curacao						
32 -						
33 - Sweden						
34 - Swiss Fr						
35 - Sw188 G						
36 - Sw188 T						
37 - Trinidad						
38 -						
39 - Venez						
40 - Zambia						
41 - Puerto R						
42 - Guyana						
43 - Brazil						
44 - Barbados						
45 - Surinam						
46 - Yugo						
47 - S. Africa						



4th & 5th DIGIT	4th & 5th DIGIT
01-04 R-80	
11-20 R-81	
21-24 R-82	25-30 R-86
31-34 R1-2	35-40 R1-4, 5
41-50 R1-3	
51-54 CTT-1S	55-60 R-87
61-70 R-83	
71-72 CTT-2	73-80 CTT-3
81-90 R-84	
91-99 R-85	

R-87 PHONOGRAPH CODE

INTRODUCTION

This parts catalog lists procurable replacement parts for the phonograph.

The purpose of this parts catalog is to locate and identify replaceable components and to supply ordering information.

DESCRIPTION

The parts catalog is divided into 15 major assemblies called "FIGURES" corresponding to the illustrations used. In some instances major assemblies require more than one illustration to identify the procurable parts. In this case sheet numbers are assigned to the figure.

Parts of riveted or welded units are not listed since repair of these parts is normally impractical in the field, however, these parts are available as assemblies.

To be sure that this parts catalog contained the latest information, last minute revisions were made. In these instances the additions were added in sequence with a letter added to the identification numbers both in the parts list and corresponding illustrations. That is 1A, 1B, 1C, etc.

The Parts List contains four columns:

Fig and Index No. - The first entry in this column lists the figure number of the corresponding illustration. An index number when listed corresponds to the index number appearing on the illustration. Index numbers are not used when:

- Items are listed for reference purposes only.
- The item listed is an alternate part.

Rowe Part No. - This column lists the part number of the item which should be specified for ordering purposes.

Description - This column contains a brief word description of the assembly or part. Each item is indented to show its proper relationship to the unit of which it is a part or to its next higher assembly.

Qty. Per Assy. - This column contains the quantity of the part used in the assembly. When a figure covers more than one model of an assembly, the "Qty. Per Assy." column is divided to show each model.

ORDERING REPLACEMENT PARTS

All replacement parts must be ordered directly from an authorized ROWE Distributor.

Once the replacement item is determined, complete a standard parts order form available from your ROWE distributor at no charge. Very often parts orders are delayed because of inadequate or incomplete information. To insure prompt parts delivery always specify the following information.

- Part Number and Description. State color if applicable.
- Quantity required.
- Model and Serial Number of machine for which the repair part is needed.
- Complete shipping address including ZIP code.
- Shipping Instructions must be specified. If the shipping method selected is Parcel Post, Air Parcel Post, United Parcel Service or Air UPS, indicate an alternate shipping method if there is a possibility the packages may exceed the size and weight limits established by these services. If you would like ROWE to select the best way to ship your parts order, specify "BEST WAY". If fastest delivery is the requirement, specify "FASTEST WAY". ROWE will select the carrier for those orders which justify shipment by truck.

R-87 Phonograph Assembly Sheet 1

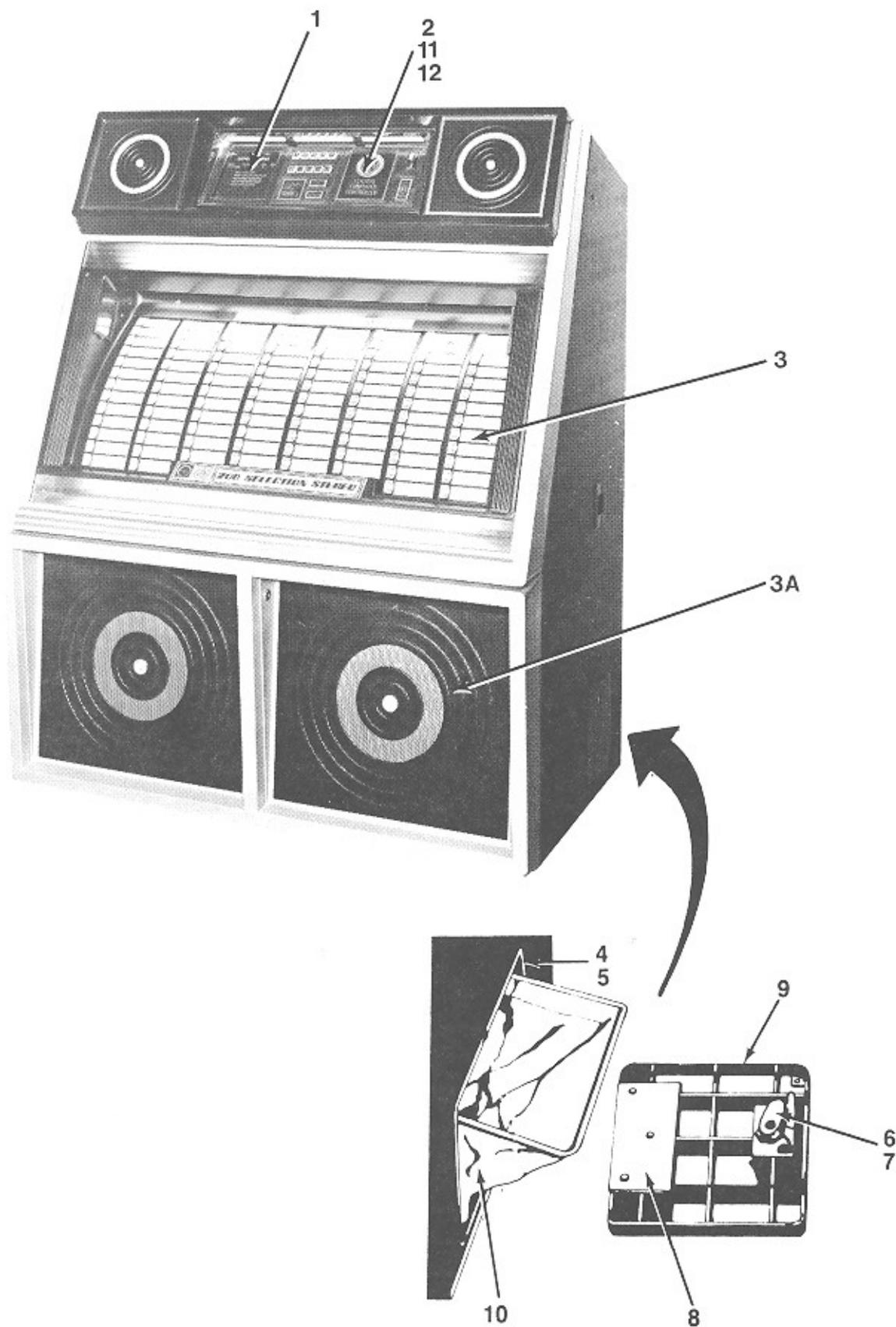


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See Page 78	R-87 Phonograph Assembly (Sapphire 7) Blue	
1-	See Page 78	R-87 Phonograph Assembly (Golden 7) Brown	
	2-18333-04	. Pricing Accessories Bag (Not Shown)	1
	2-17305-14	. Accessories Bag Containing: (Not Shown)	1
	2-11988-01	. . Accessories Bag	1
	7-00975-01	. . Contact (Pin)	6
	7-00975-02	. . Contact (Socket)	6
	7-00756-01	. . Contact (Post)	10
	7-00910-12	. . Terminal Lug	10
	7-00720-10	. . Fuse (5 Amp)	2
	7-00721-06	. . Fuse (5 Amp)	1
	3-07922-01	. . Turntable Drive Belt	1
1	3-08550-01	. Price Card	1
	6-09394-01	. Universal Price Selection Sheet (Not Shown)	1
2	2-18658-03	. Bill Acceptor Blockout Ass'y (Covers Opening When No B.A. Is Used)	1
3	6-09389-01	. Top Door Assembly (See Figure 3)(Sapphire 7)	1
	6-09389-02	. Top Door Assembly (See Figure 3A)(Golden 7)	1
3A	6-09390-01	. Front Door Assembly (See Figure 2)(Sapphire 7)	1
	6-09390-02	. Front Door Assembly (See Figure 2A)(Golden 7)	1
	2-17806-05	. Acoustical Pad (Not Shown)	1
4	4-05276-05	. Cash Box Door Frame	1
5	2-17760-05	. "U" Type Speed Clip	1
	2-11866-05	. Cash Box Door Assembly	1
6	7-01600-16	. . Cylinder Lock	1
7	2-06695-01	. . Lock Support	1
8	2-07703-01	. . Catch Bracket	1
9	6-03267-05	. . Cash Box Door	1
10	3-07026-01	. Cash Bag	1
11	2-18671-01	. Blockout Reflector	1
12	2-17760-07	. Speed Clip - "U" Type	2

R-87 Phonograph Assembly Sheet 2

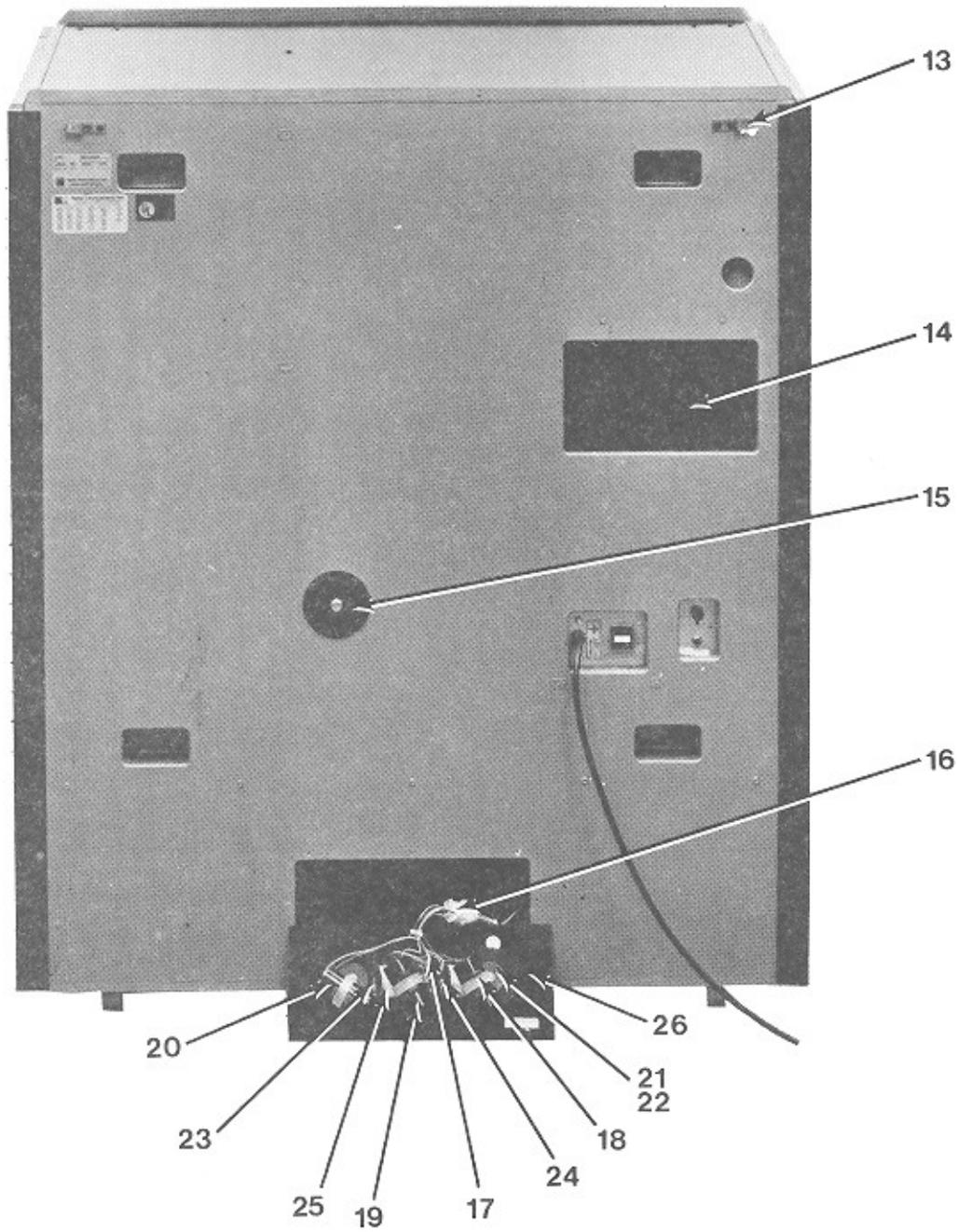


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See Page 78	R-87 Phonograph Assembly (Sapphire 7) (Continued)	
1-	See Page 78	R-87 Phonograph Assembly (Golden 7) (Continued)	
13	2-08795-01	. Retainer Bracket	2
14	3-08684-01	. Enclosure Screen	1
15	2-12652-03	. Tie Down Plate Assembly	1
	4-07160-04	. Speaker Network Assembly	1
16	3-07491-05	. . Plug Housing (9 Ckt.)	1
	7-00975-01	. . Contact	9
17	3-04225-14	. . Terminal Strip	3
18	7-00931-12	. . Cable Clamp	3
19	3-07722-07	. . 43/53 MFD Electrolytic Capacitor, 50V (Mallory Type P Sprague Type 9A)	1
20	3-07722-03	. . 21/25 MFD Electrolytic Capacitor, 50V (Mallory Type P Sprague Type 9A)	2
21	7-01211-10	. . Spacer	3
	7-08001-07	. . Cable Tie	2
22	7-01200-04	. . Flat Washer	3
23	2-10586-01	. . 7 mH Inductor	2
24	2-10641-01	. . 8 mH Inductor	1
25	2-18003-01	. . Spacer Block - Crossover	1
26	3-07877-01	. . Network Panel	1
	7-02204-43	. . Foamed Tape	3

R-87 Phonograph Assembly Sheet 3

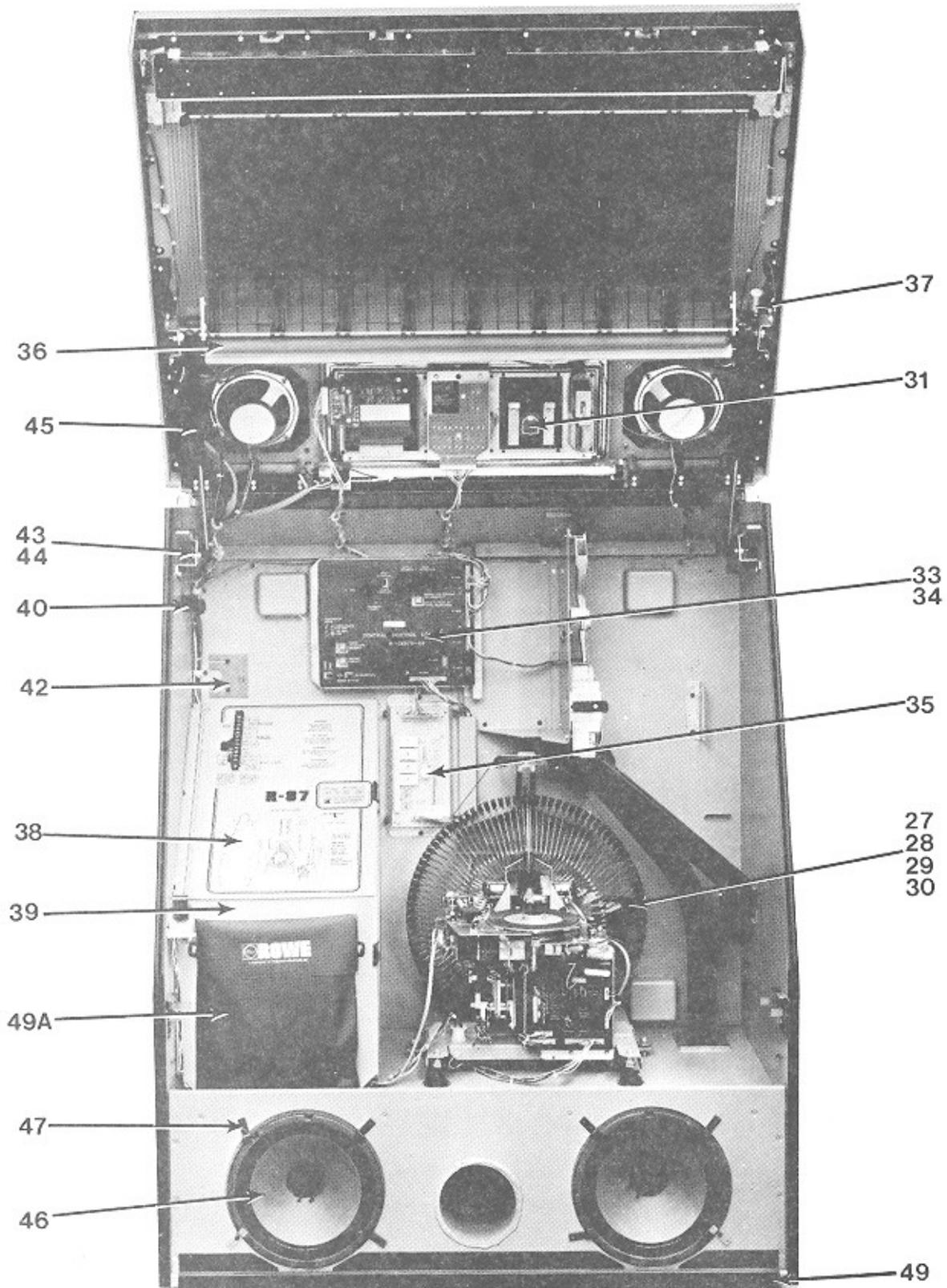


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See Page 78	R-87 Phonograph Assembly (Sapphire 7)(Continued)	
1-	See Page 78	R-87 Phonograph Assembly (Golden 7)(Continued)	
27	6-08700-01	. Mechanism Assembly (See Figure 12)(60Hz)	1
28	6-08700-02	. Mechanism Assembly (See Figure 12)(50Hz)	1
29	2-11537-01	. Lower Spring Support	4
30	2-12036-01	. Mech Tie Down Bolt	2
31	2-18657-01	. Blockout Retainer	1
32	2-15790-01	. Wing Nut (Not Shown)	4
33	6-08870-06	. Central Control Computer (See Figure 10)	1
34	2-18258-01	. Central Control Computer Support Bracket	2
35	4-07380-02	. Pricing Assembly	1
	6-08878-04	. . Circuit Board Assembly (See Schematic for P.L.)	1
	4-07392-01	. . Pricing Board Mounting Plate Assembly	1
	4-07393-01	. . Pricing Board Cover	1
	7-01216-16	. . Spacer	2
	3-08386-01	. . Insulator	1
	2-18507-01/15	. . Price Inserts (1, 3, 5, 7, Shown)	
36	7-00601-12	. Fluorescent Lamp, 36 inches, 30W. Type T-8	1
37	7-00800-04	. Fluorescent Starter, FS-4	1
38	4-07726-02	. Hinge & Cover Assembly	1
39	3-08685-01	. Amplifier Panel	1
40	2-17518-03	. Spring Catch	1
41	2-17518-04	. Spring Catch (Not Shown)	1
42	2-17593-01	. Cord Hole Cover	2
43	3-08655-01	. Pivot Bracket	2
44	2-17976-01	. Ball Stud	2
45	4-07149-03	. Pneumatic Spring	2
46	4-07374-01	. Low Frequency Speaker	2
47	2-17807-01	. Speaker Retaining Bracket	8
48	2-51422-23	. Jumper Assembly (Not Shown)	1
49	6-09376-01	. Door Mtg. Bracket	1
49A	2-17305-14	. Accessory Bag	1

R-87 Phonograph Assembly

Sheet 4

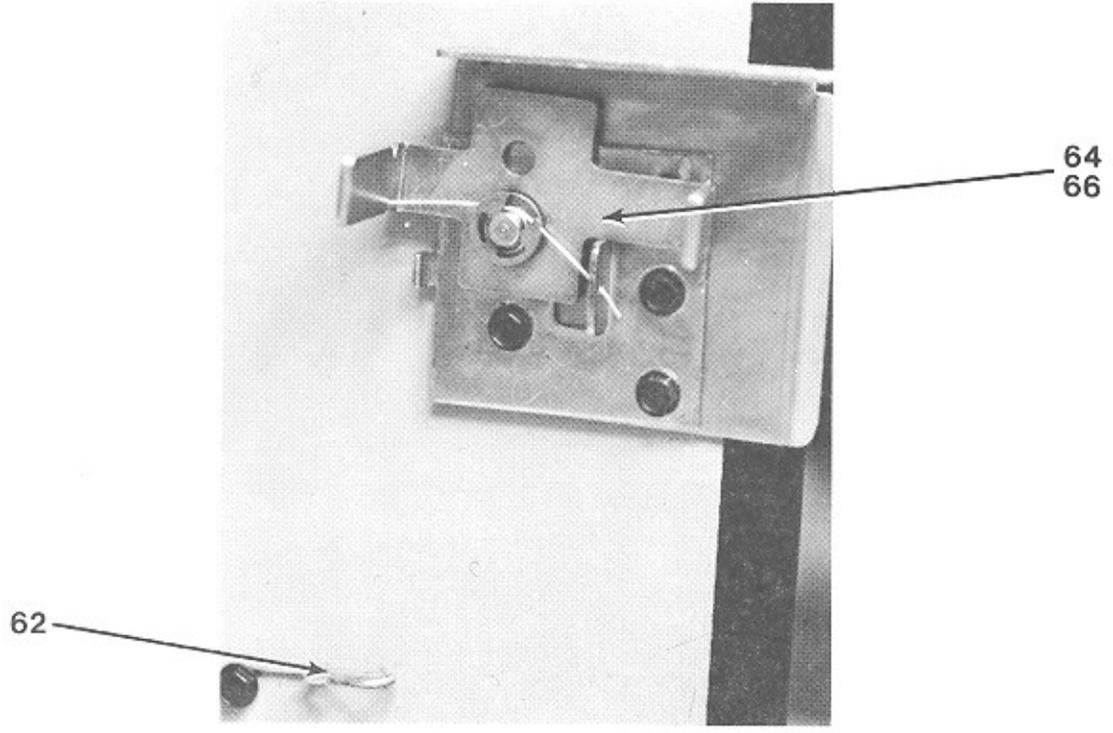
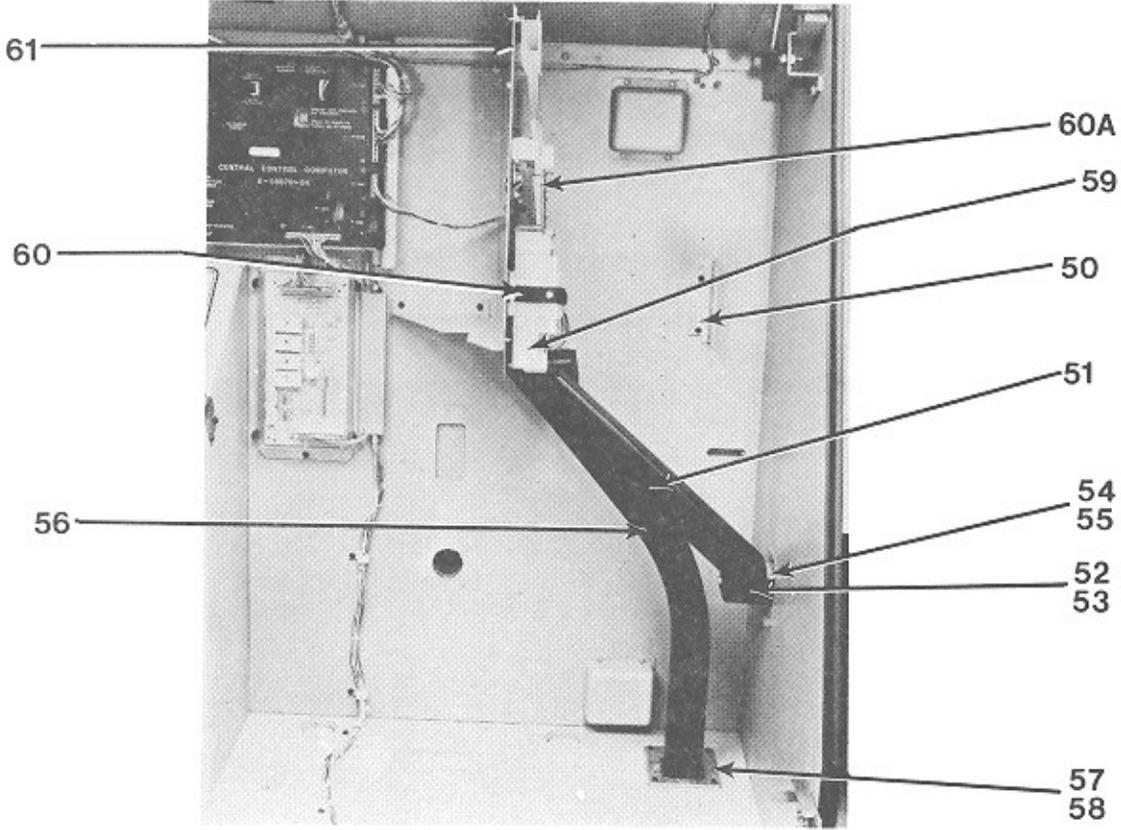
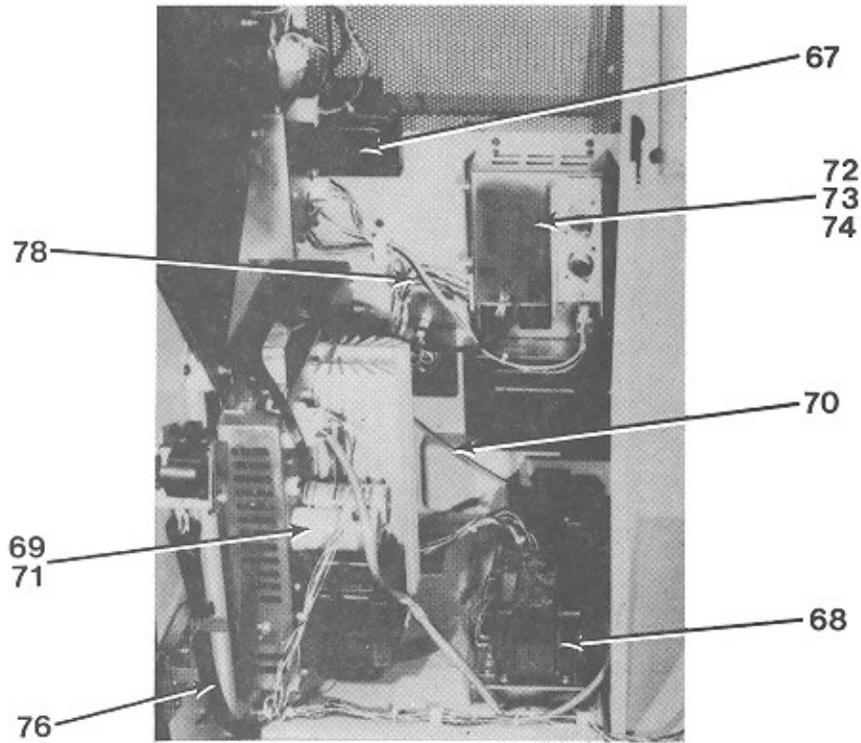


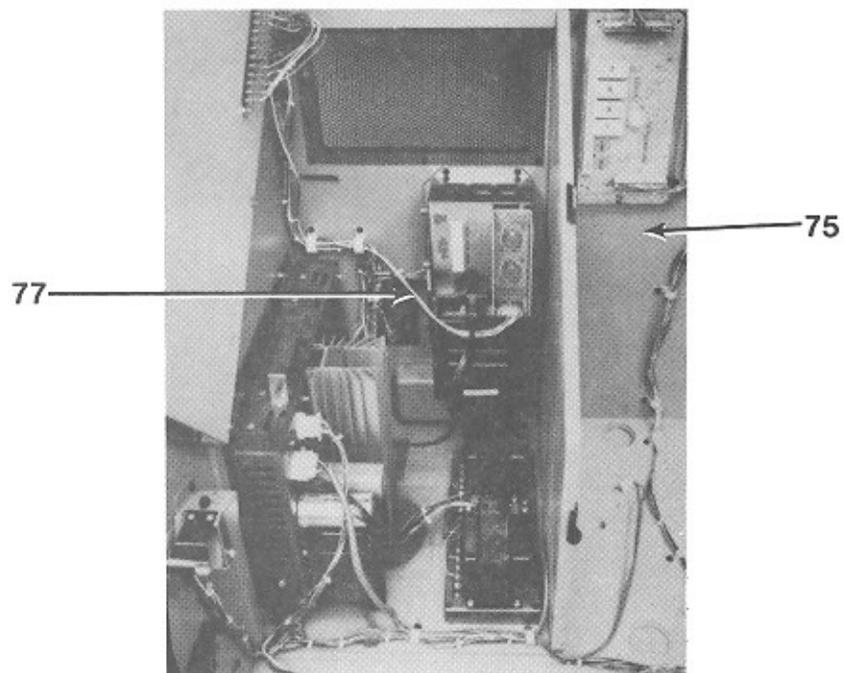
FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See Page 78	R-87 Phonograph Assembly (Sapphire 7) (Continued)	
1-	See Page 78	R-87 Phonograph Assembly (Golden 7) (Continued)	
50	2-17901-02	. Hinge Support (not on Bill Acceptor Model)	1
51	3-08568-01	. Slug Chute Assembly	1
52	2-17930-01	. Slug Cup Bracket	2
53	2-13578-02	. Elastic Stop Nut	1
54	2-17929-01	. Slug Cup Door	1
55	3-07817-02	. Slug Cup	1
56	4-07743-01	. Lower Coin Chute Assembly	1
57	3-07437-01	. Coin Chute Collar	1
58	2-17544-01	. Coin Chute Gasket	1
59	4-07159-01	. Slug Rejector (5c, 10c, 25c, 50c)	OPT
	4-07159-02	. Slug Rejector (5c, 10c, 25c, \$1.00)	OPT
	4-06962-01	. Slug Rejector (3 Coin Plastic)	OPT
60	2-14295-01	. Catch Bracket Assembly	1
60A	4-07038-06	. Mounting Bracket and Coin Switch Assembly	1
	2-06368-01	. . Stud	1
	3-05787-03	. . Coin Switch Assembly	1
	2-18223-01	. . Slug Rej. Catch Plate	1
	2-17901-02	. . Rejector Hinge	1
	2-14114-01	. . Spacer (Not Used with 3 coin Rejector)	1
	4-05793-01	. . Slug Rejector Mounting Bracket Assembly	1
61	4-07372-01	. Support & Coin Chute Assembly	1
	2-12562-01	. . Spring	1
	2-18221-01	. . Slug Rejector Actuator	1
	2-51569-04	. . Shoulder Washer	1
	2-17556-02	. . Scavenge Link	1
	2-17656-01	. . Spring	1
	2-09225-02	. . Spacer	4
	2-18222-01	. . Scavenger Shaft	1
	3-08380-01	. . Gusset	1
	2-18256-01	. . Support Guard	1
	3-08370-01	. . Coin Chute Assembly (Upper)	1
	2-17901-02	. . Support Hinge	1
	4-07371-01	. . Slug Rejector Support	1
62	2-17300-01	. Fall Stop Hook	2
63	2-17128-01	. Latch Assembly (RH) (Not Shown)	1
64	2-17127-01	. Latch Assembly (LH)	1
65	3-08678-01	. Upstop Bracket (RH) (Not Shown)	1
66	3-08677-01	. Upstop Bracket (LH)	1

R-87 Phonograph Assembly

Sheet 5



Sapphire



Golden

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See Page 78	R-87 Phonograph Assembly (Sapphire 7)(Continued)	
1-	See Page 78	R-87 Phonograph Assembly (Golden 7)(Continued)	
67	4-07501-02	. Lamp Control Ass'y (See Fig 5)	1
	6-07439-05	. 125 Watt Stereo Amplifier And Transformer Assembly	1
68	4-06336-05	. 125 Watt Output Transformer Assembly (See Figure 9)	1
69	6-07438-06	. 125 Watt Stereo Amplifier Assembly (See Figure 7)	1
70	3-08324-02	. Tone Arm Cable and Plug Assembly	1
71	4-02426-01	. Amplifier Mounting Bracket Assembly	1
72	4-07706-01	. Main Power Supply (120V) (See Figure 11)	1
73	4-65092-02,03	. Main Power Supply (220V, 240V) (See Figure 11)	1
74	2-09256-01	. Mounting Bracket	1
75	6-09350-03	. Shell Assembly (See Figure 6)(Sapphire)	1
	6-09350-04	. Shell Assembly (See Figure 6)(Golden)	1
76	6-08972-04	. Harness and Console Assembly	1
	2-18698-01	. . Switch Housing Assembly	1
	2-18697-01	. . . Housing and Actuator Assembly	1
	2-18696-01	. . . Actuator Assembly	1
	2-14994-01	. . Insulator	2
	7-00931-03	. . Cable Clamp	1
	3-07491-05	. . Plug Housing (9 Ckt.) (To Mechanism, Ext., Speaker, Power Supply)	2
	3-07490-05	. . Cap Housing (9 Ckt.) (To Crossover Connector)	1
	7-00975-01	. . Contact	12
	7-00975-02	. . Contact	8
	7-00975-03	. . Contact	2
	2-15818-01	. . Momentary Contact Pushbutton Switch	1
	2-18005-01	. . Jumper Assembly	1
	2-51422-23	. . Jumper Assembly	1
	7-00965-01	. . Terminal Strip (On Amplifier Cover)	1
	7-00755-05	. . Connector Housing (5 Ckt.)(To Volume Control)	2
	7-00756-01	. . Contact Post	15
	2-13935-05	. . Volume Control and Terminal Assembly	1
	2-18686-01	. . Volume Control Knob	1
	7-01355-11	. . Palnut (Mounts Volume Control)	1
	7-00991-01	. . Self Stripping Splice	3
	7-08001-01	. . Cable Tie	8
	7-00913-02	. . Terminal Lug	4
	7-00913-08	. . Terminal Lug	2
	7-00913-16	. . Terminal Lug	11
	7-00913-21	. . Terminal Lug	13
	2-18680-01	. . Control Plate	1
	7-00931-01	. Cable Clamp	13
	7-00934-01	. Cable Clamp	3
	7-00934-02	. Cable Clamp	21
	7-00934-03	. Cable Clamp	2
	7-00755-03	. . Connector Housing	1
	7-00755-09	. . Connector Housing	1
	3-07491-04	. . Plug Housing (6 Ckt.)	1
	3-07491-03	. . Plug Housing (4 Ckt.)	1
	7-00757-01	. . Keying Pin	1
	7-00757-02	. . Keying Pin	1
77	3-08566-01	. Light Harness Assembly (Golden 7)	1
	3-08566-02	. Light Harness Assembly (Canada)	1
78	3-08572-01	. Light Control Light Harness Assembly (Sapphire 7)	1
	3-08572-02	. Light Control Light Harness Assembly (Canada)	1

R-87 Phonograph Assembly

Sheet 6

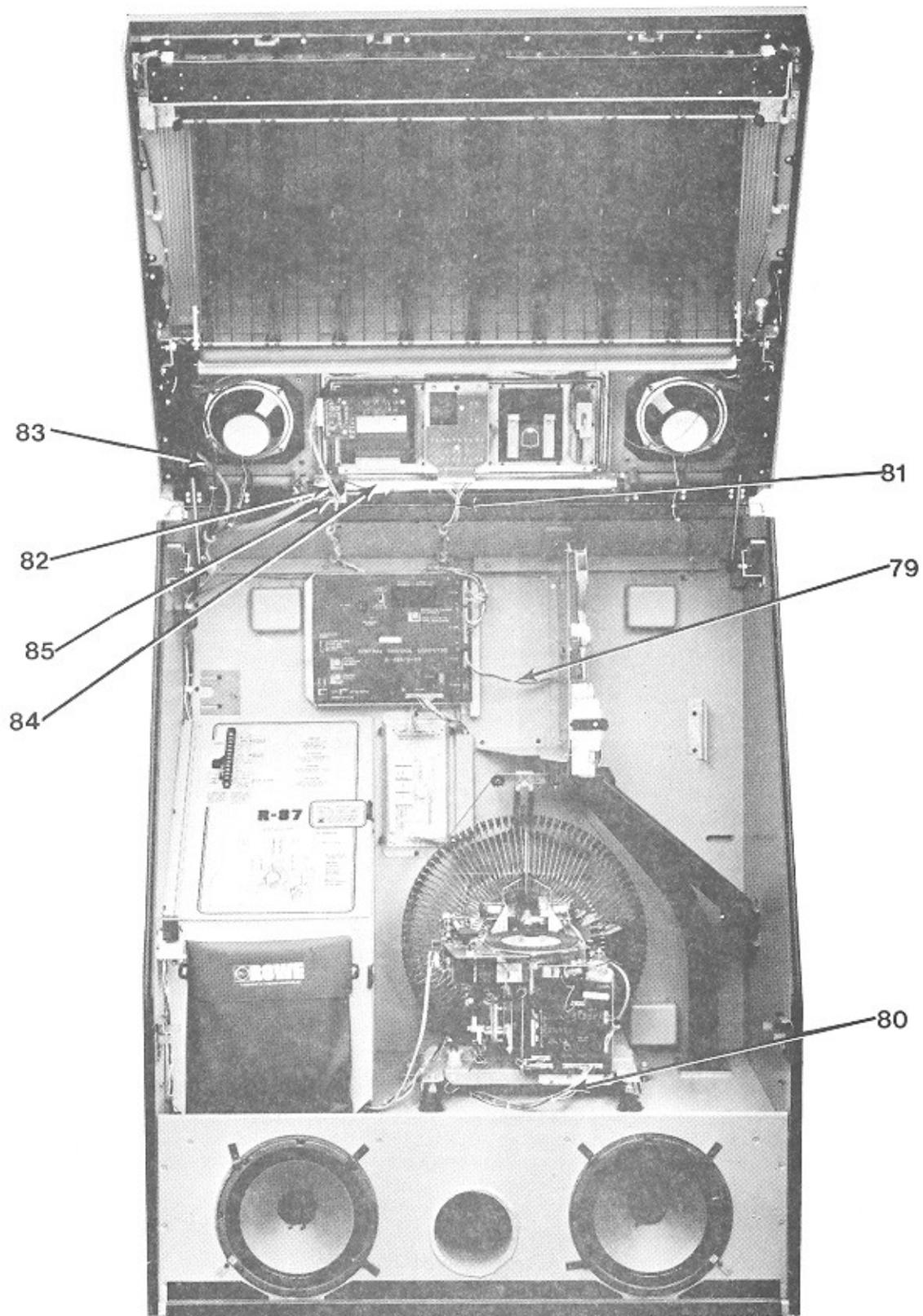


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	See Page 78	R-87 Phonograph Assembly (Sapphire 7) (Continued)	
1-	See Page 78	R-87 Phonograph Assembly (Golden 7) (Continued)	
79	3-08336-02	. Coin Switch Harness	1
	7-00755-07	. . Connector Housing	2
	7-00756-01	. . Contact	12
	7-00757-01	. . Keying Plug	1
	7-00757-02	. . Keying Plug	2
	7-08001-01	. . Cable Tie	6
80	3-08328-02	. Mech Computer Harness	1
	7-00755-17	. . Connector Housing	2
	7-00756-01	. . Contact Post	30
	7-00757-02	. . Keying Plug	2
	7-08001-01	. . Cable Tie	16
81	3-08384-02	. Keyboard Harness	1
	7-00755-16	. . Connector Housing	2
	7-00756-01	. . Contact Post	30
	7-00757-01	. . Keying Plug	1
	7-00757-02	. . Keying Plug	1
	7-08001-01	. . Cable Tie	15
82	4-07379-03	. Selector Harness	1
	2-50572-04	. . Edge Connector	1
	7-00929-01	. . Terminal Mod. Fork	12
	2-50586-01	. . Keying Post	1
	7-00755-11	. . Connector Housing	1
	7-00755-16	. . Connector Housing	1
	7-00755-18	. . Connector Housing	1
	7-00756-01	. . Contact Post	39
	7-00757-02	. . Keying Plug	2
	7-08001-01	. . Cable Tie	16
83	4-07712-03	. Light Harness Assembly	1
	4-07712-04	. Light Harness Assembly (Canada)	1
	2-15693-01	. . Ballast (30 Watt)	1
	2-17452-01	. . Ballast (30 Watt) (Canada)	1
	2-18236-01	. . Ballast (13 Watt)	1
	2-18236-02	. . Ballast (13 Watt) (Canada)	1
	2-00295-01	. . Starter Socket	2
	2-18267-12	. . Fluorescent Lampholder	1
	2-18267-13	. . Fluorescent Lampholder	1
	2-18237-02	. . Miniature Lampholder	2
	2-18685-01	. . Starter Bracket	1
	3-07491-02	. . Plug Housing (3 Circuit)	1
	7-00975-03	. . Contact	3
	7-00975-05	. . Contact	3
	7-00915-12	. . Terminal Lug	4
	7-00921-04	. . Solderless Connector	5
	7-00991-01	. . Self Stripping Splice	7
	7-00993-01	. . Self Stripping Splice	4
	2-18322-02	. . Lamp Bracket	1
	7-08001-01	. . Cable Tie	35
84	7-00601-15	. Fluorescent Lamp (13 Watt T5)	1
85	7-00800-04	. Fluorescent Starter	1

Front Door Assembly Sapphire 7

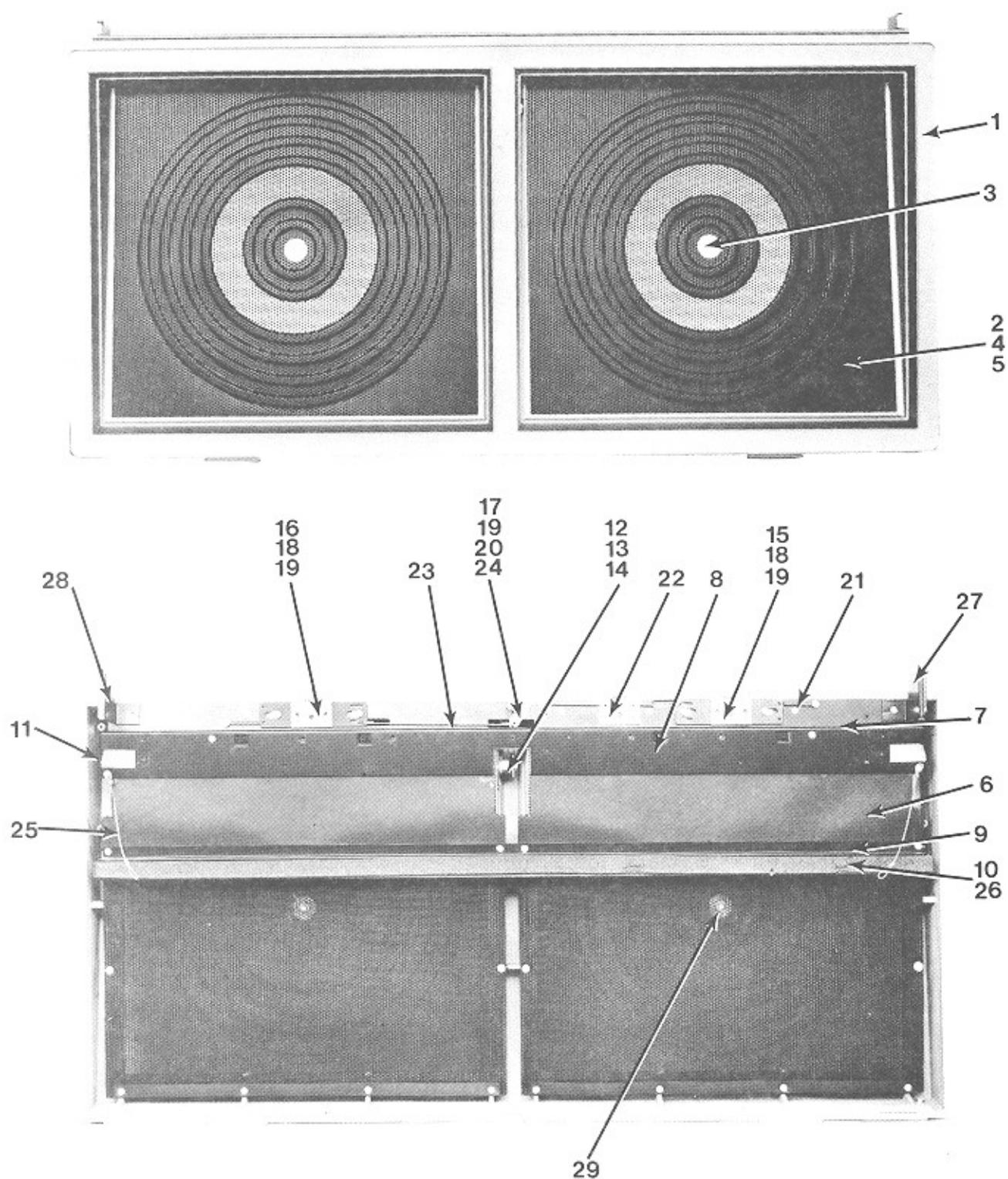


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
2-	6-09390-01	Front Door Assembly (Sapphire 7)(Fig 1 Item 3A)	
1	6-09351-03	. Front Door Frame	1
2	6-09385-01	. Front Door Grille	1
3	2-18717-02	. Decorative Button	2
4	4-07723-02	. Front Door Scrim	2
5	2-18679-02	. Scrim Backing	2
6	3-08676-02	. Front Door Light Block	2
7	3-08654-01	. Diffuser	2
8	4-07722-04	. Catch Bracket Assembly	1
9	3-08679-01	. Seal Bracket	1
10	7-02204-61	. Foam Tape	2
11	7-02105-09	. Protective Molding	2
12	7-01632-06	. Cylinder Lock (Common Keying)	1
13	2-18655-01	. Lock Plate	1
14	2-14256-01	. Lock Bolt	1
15	2-18651-01	. Lock Bar Assembly (LH)	1
16	2-18652-01	. Lock Bar Assembly (RH)	1
17	2-18665-01	. Lock Link Pivot	1
18	7-01208-01	. Washer	4
19	2-09225-02	. Spacer	5
20	7-01209-14	. Washer	1
21	2-12562-01	. Tension Spring	2
22	2-18650-01	. Catch	1
23	2-17249-03	. Lock Bar Link	2
24	2-18653-01	. Pivot Link	1
25	2-15726-01	. Fall Stop Cable	2
26	7-02204-60	. Foam Tape	1
27	3-08688-01	. Light Block (LH)	1
28	3-08689-01	. Light Block (RH)	1
29	2-15328-04	. Clip	2

FIGURE
2A

Front Door Assembly Golden 7

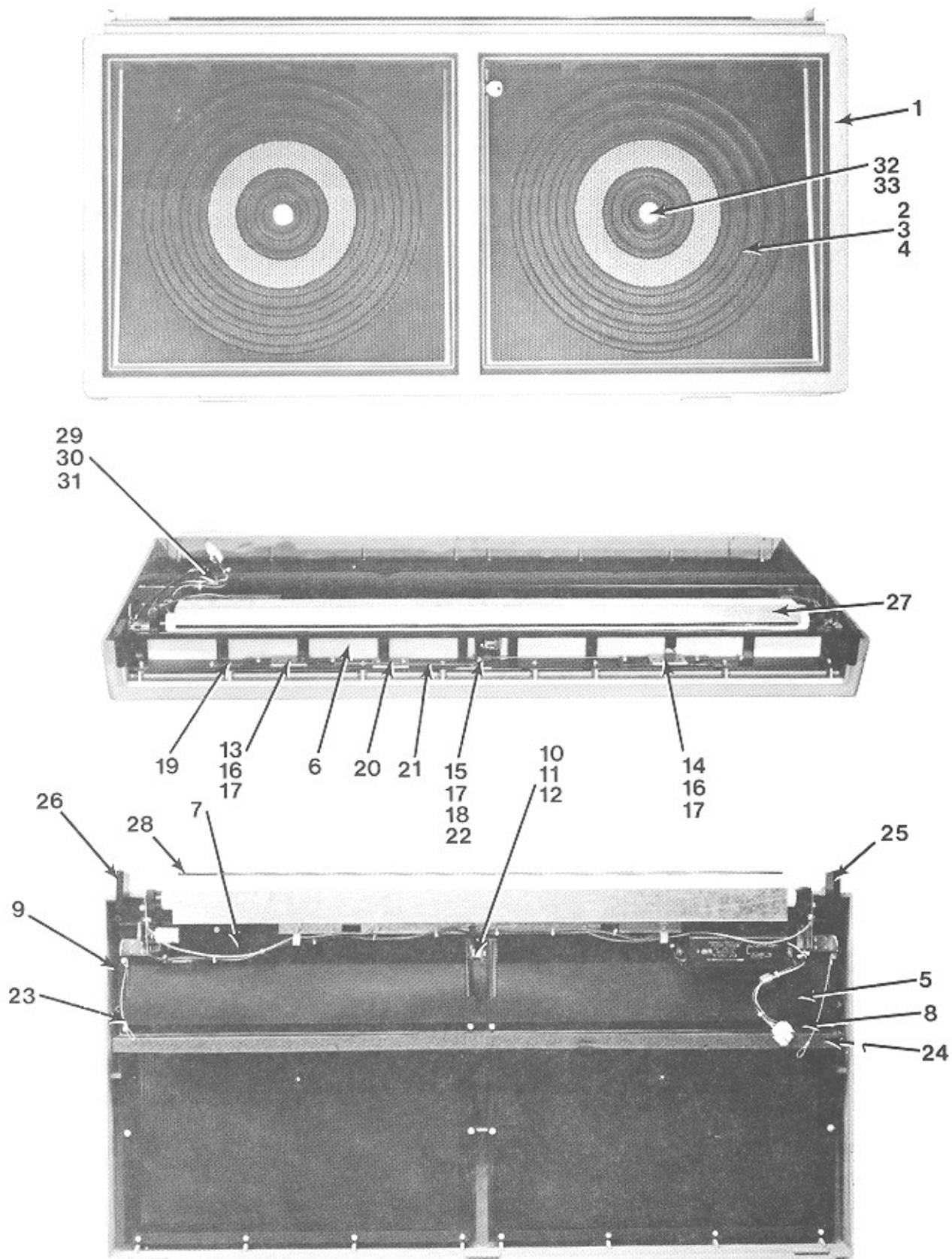


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
2-	6-09390-02	Front Door Assembly (Golden 7) (Fig 1 Item 3A)	
1	6-09351-04	. Front Door Frame	1
2	6-09385-02	. Front Door Grille (Golden 7)	1
3	4-07723-02	. Front Door Scrim	2
4	2-18679-01	. Scrim Backing	2
5	3-08676-02	. Front Door Light Block	2
6	3-08654-01	. Diffuser	2
7	4-07722-03	. Catch Bracket Assembly	1
8	3-08679-01	. Seal Bracket	1
	7-02204-61	. Foam Tape (Not Shown)	2
9	7-02105-09	. Protective Molding	2
10	7-01632-06	. Cylinder Lock (Common Keying)	1
11	2-18655-01	. Lock Plate	1
12	2-14256-01	. Lock Bolt	1
13	2-18651-01	. Lock Bar Assembly (LH)	1
14	2-18652-01	. Lock Bar Assembly (RH)	1
15	2-18665-01	. Lock Link Pivot	1
16	7-01208-28	. Washer	4
17	2-09225-02	. Spacer	5
18	7-01209-14	. Washer	1
19	2-12562-01	. Tension Spring	2
20	2-18650-01	. Catch	1
21	2-17249-03	. Lock Bar Link	2
22	2-18653-01	. Pivot Link	1
23	2-15726-01	. Fall Stop Cable	2
24	7-02204-60	. Foamed Tape	1
25	3-08688-01	. Light Block (LH)	1
26	3-08689-01	. Light Block (RH)	1
27	4-07729-01	. Static Shield	1
28	7-02105-10	. Protective Molding	1
29	2-07710-01	. Cable Clip	1
30	7-00934-01	. Cable Clamp	2
31	2-51422-01	. Jumper Assembly	2
32	2-18717-02	. Decorative Button	2
33	2-15328-04	. Clip	2

FIGURE
3

Top Door Assembly Sapphire 7

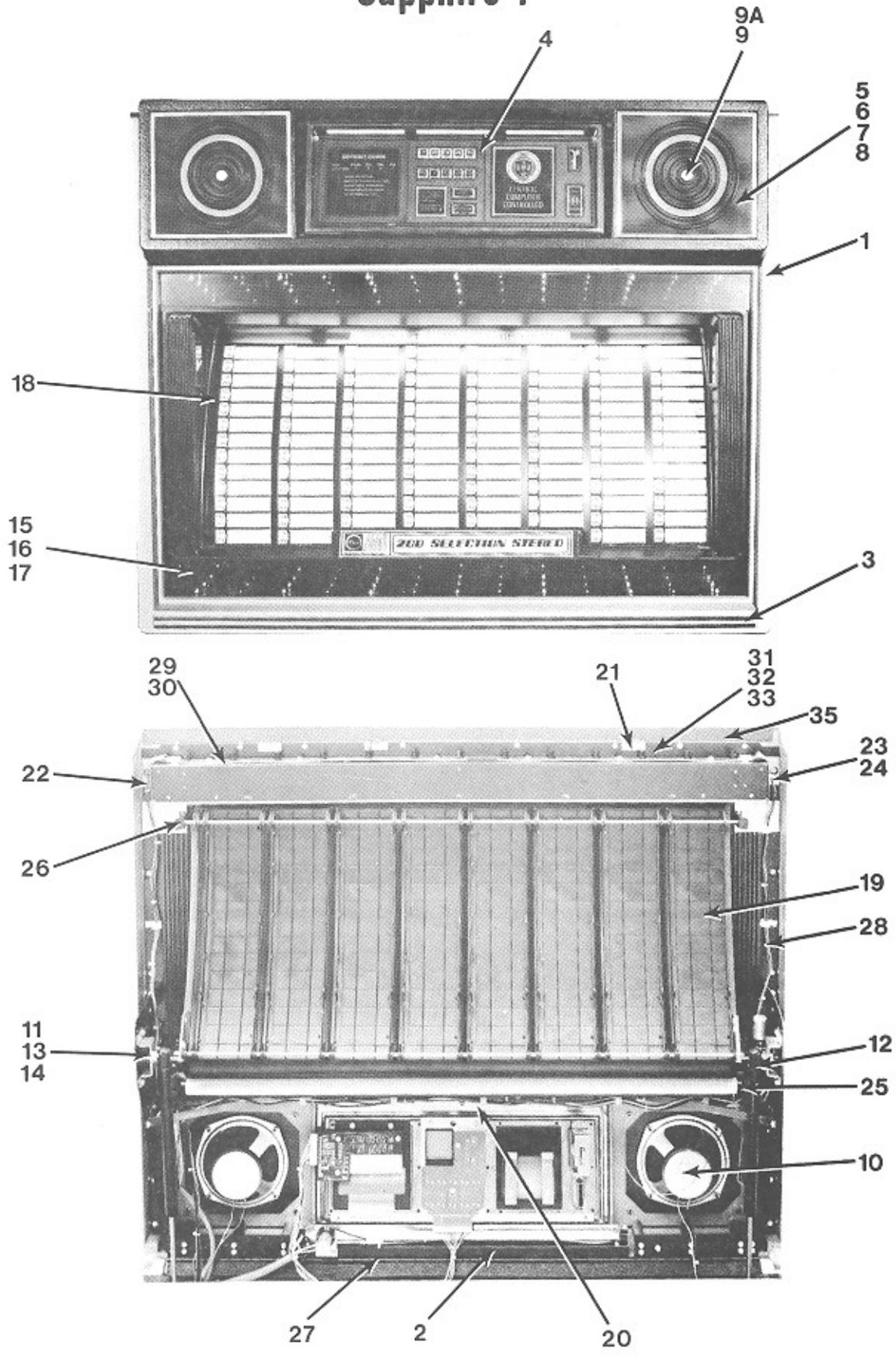


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
3-	6-09389-01	Top Door Assembly (Sapphire 7)	
1	6-09352-03	. Top Door Frame (Sapphire 7)	1
2	3-08656-02	. Lamp Bracket	1
3	3-08555-01	. Insert Decal	1
4	6-09388-01	. Selector Assembly (Fig 4)	1
5	4-07732-01	. Speaker Grille	2
6	4-07735-01	. Grille Trim	2
7	2-18676-01	. Foam Pad	1
8	2-18662-02	. Plate Assembly	1
9	2-18717-01	. Decorative Button	2
9A	2-15328-04	. Clip	2
10	4-07315-01	. Speaker Mid/High Frequency	1
11	3-08682-02	. Door Support Assembly (LH)	1
12	3-08683-02	. Door Support Assembly (RH)	1
13	2-17976-01	. Ball Stud	2
14	3-08383-01	. Spring Bracket	2
15	4-07731-03	. Decorative Window	1
16	2-18206-10	. Channel Rubber	2
17	2-18206-11	. Channel Rubber	2
18	6-09391-01	. Title Rack Housing	1
	3-08560-01	. . Name Plate Decal	1
	7-02204-57	. . Foam Tape	2
	2-18664-01	. . Title Rack Hanger	2
	3-08661-03	. . License Holder	2
	2-18693-01	. . License Holder	2
	3-08565-01	. . Diffuser	1
19	4-07736-01	. Title Rack Assembly	1
	6-09362-03	. . Title Rack	8
	6-09386-01	. . Title Rack Spacer	8
	3-08559-01	. . Number Strip	1
	3-08559-02	. . Number Strip	1
	3-08559-03	. . Number Strip	1
	3-08559-04	. . Number Strip	1
	3-08559-05	. . Number Strip	1
	3-08559-06	. . Number Strip	1
	3-08559-07	. . Number Strip	1
	3-08559-08	. . Number Strip	1
	2-17944-10	. . Rod	1
	2-17944-11	. . Rod	1
	7-01430-04	. . Retaining Ring	2
	2-15689-01	. . Push Nut	2
20	3-08686-01	. Selector Catch	2
21	3-08681-03	. Frame & Strike Assembly	1
	3-08664-05	. . Horizontal Frame Assembly	1
	2-18672-01	. . Strike	2
	2-18673-01	. . Guide	1
22	3-08570-01	. Mirror End (LH)	2
23	3-08571-01	. Mirror End (RH)	2
24	3-08569-01	. Mirror	2
25	2-18322-03	. Lamp Bracket	2
26	2-18710-01	. Catch Assembly	2
27	4-07711-02	. Hinge	1
28	6-09371-02	. Disco Harness Assembly	1
	7-00766-05	. . Edge Connector	4
	7-00767-01	. . Contact	20
	3-07491-04	. . Cap Housing	1
	7-08001-01	. . Cable Tie	30
29	6-09252-02	. Printed Wiring Board 7 Lamp	2
30	6-09252-03	. Printed Wiring Board 6 Lamp	2
31	3-08665-02	. Lens (Blue)	12
32	3-08665-04	. Lens (Magenta)	14
33	2-18622-01	. Lamp & Socket Assembly	26
34	2-18616-01	. Disco Lamp Label	1
35	7-02204-56	. Foam Tape	1

Top Door Assembly Golden 7

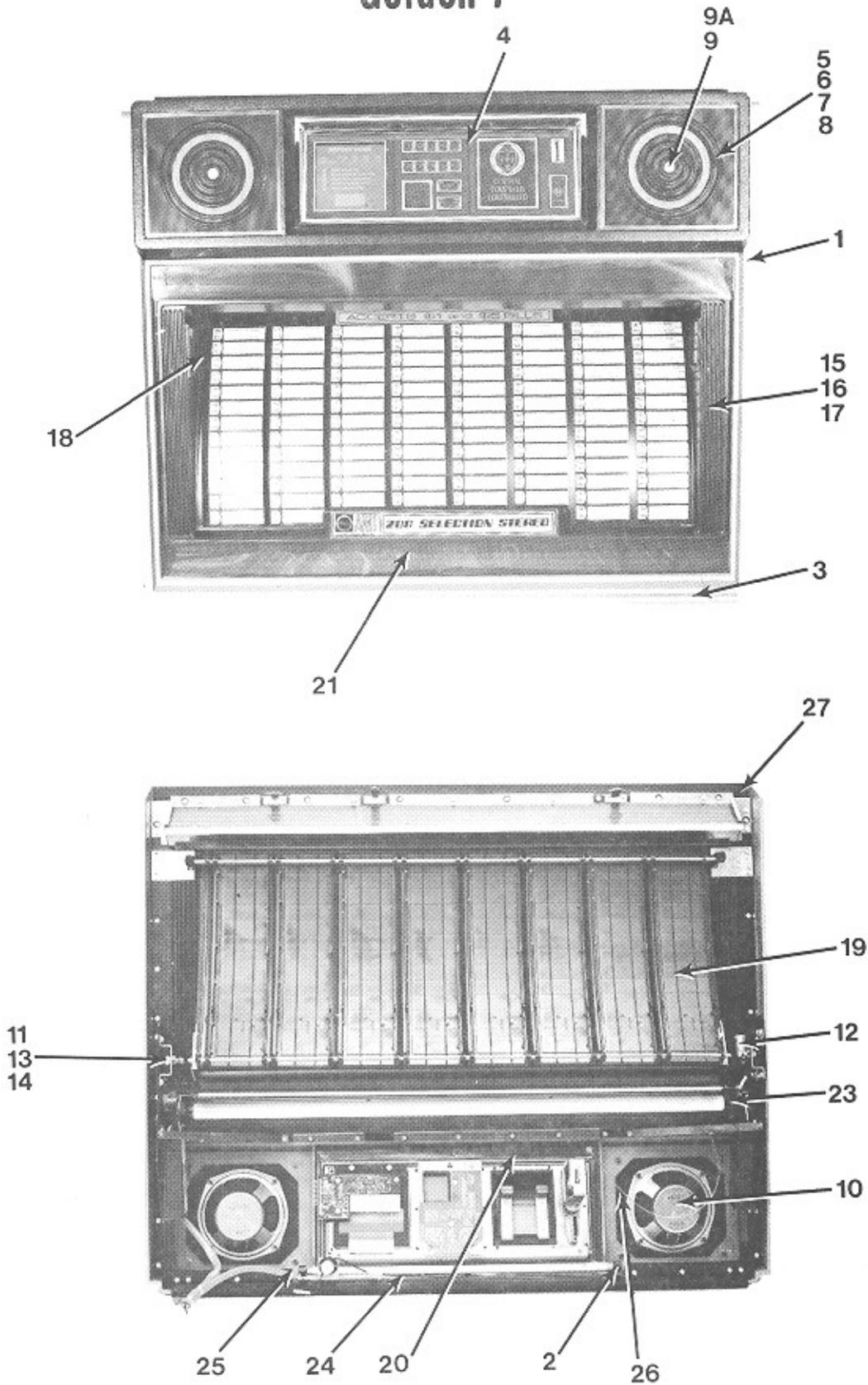


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
3-	6-09389-02	Top Door Assembly (Golden 7)(Fig 1 Item 3)	
1	6-09352-04	. Top Door Frame	1
2	3-08656-02	. Lamp Bracket	1
3	3-08555-02	. Insert Decal (Golden 7)	1
4	6-09388-02	. Selector Assembly (Golden 7)(See Fig 4)	1
5	4-07732-02	. Speaker Grille (Golden 7)	1
6	4-07735-01	. Grille Trim	2
7	2-18676-01	. Foamed Pad	1
8	2-18662-02	. Plate Assembly	1
9	2-18717-01	. Decorative Button	2
9A	2-15328-04	. Clip	2
10	4-07315-01	. Speaker - Mid/High Frequency	1
11	3-08682-02	. Door Support Assembly (LH)	1
12	3-08683-02	. Door Support Assembly (RH)	1
13	2-17976-01	. Ball Stud	2
14	3-08383-01	. Spring Bracket	2
15	4-07731-02	. Decorative Window	1
16	2-18206-10	. Channel Rubber	2
17	2-18206-11	. Channel Rubber	2
18	6-09391-02	. Title Rack Housing (Golden 7)	1
	3-08560-01	. . Name Plate Decal	1
	7-02204-57	. . Foam Tape	2
	2-18664-01	. . Title Rack Hanger	2
	3-08661-04	. . License Holder (Golden 7)	2
	2-18693-01	. . License Holder	2
	3-08565-01	. . Diffuser	1
19	4-07736-01	. Title Rack Assembly (Golden 7)	1
	6-09362-03	. . Title Rack	8
	6-09386-01	. . Title Rack Spacer	8
	3-08559-01	. . Number Strip	1
	3-08559-02	. . Number Strip	1
	3-08559-03	. . Number Strip	1
	3-08559-04	. . Number Strip	1
	3-08559-05	. . Number strip	1
	3-08559-06	. . Number Strip	1
	3-08559-07	. . Number Strip	1
	3-08559-08	. . Number Strip	1
	2-17944-10	. . Rod	1
	2-17944-11	. . Rod	1
	7-01430-04	. . Retaining Ring	2
	2-15689-01	. . Push Nut	2
20	3-08686-01	. Selector Catch	2
21	3-08558-01	. Mirror Assembly	2
	6-09393-01	. . Horizontal Mirror	1
	3-08556-01	. . End Mirror (LH)	1
	3-08557-01	. . End Mirror (RH)	1
22	2-18710-01	. Catch Assembly	2
23	2-18322-02	. Lamp Bracket	2
24	4-07711-01	. Hinge	1
25	7-00934-01	. Cable Clamp	8
26	2-15726-04	. Cable - Fall Stop	1
27	7-02204-56	. Foam Tape	1

FIGURE
4

Selector And Grille Assembly

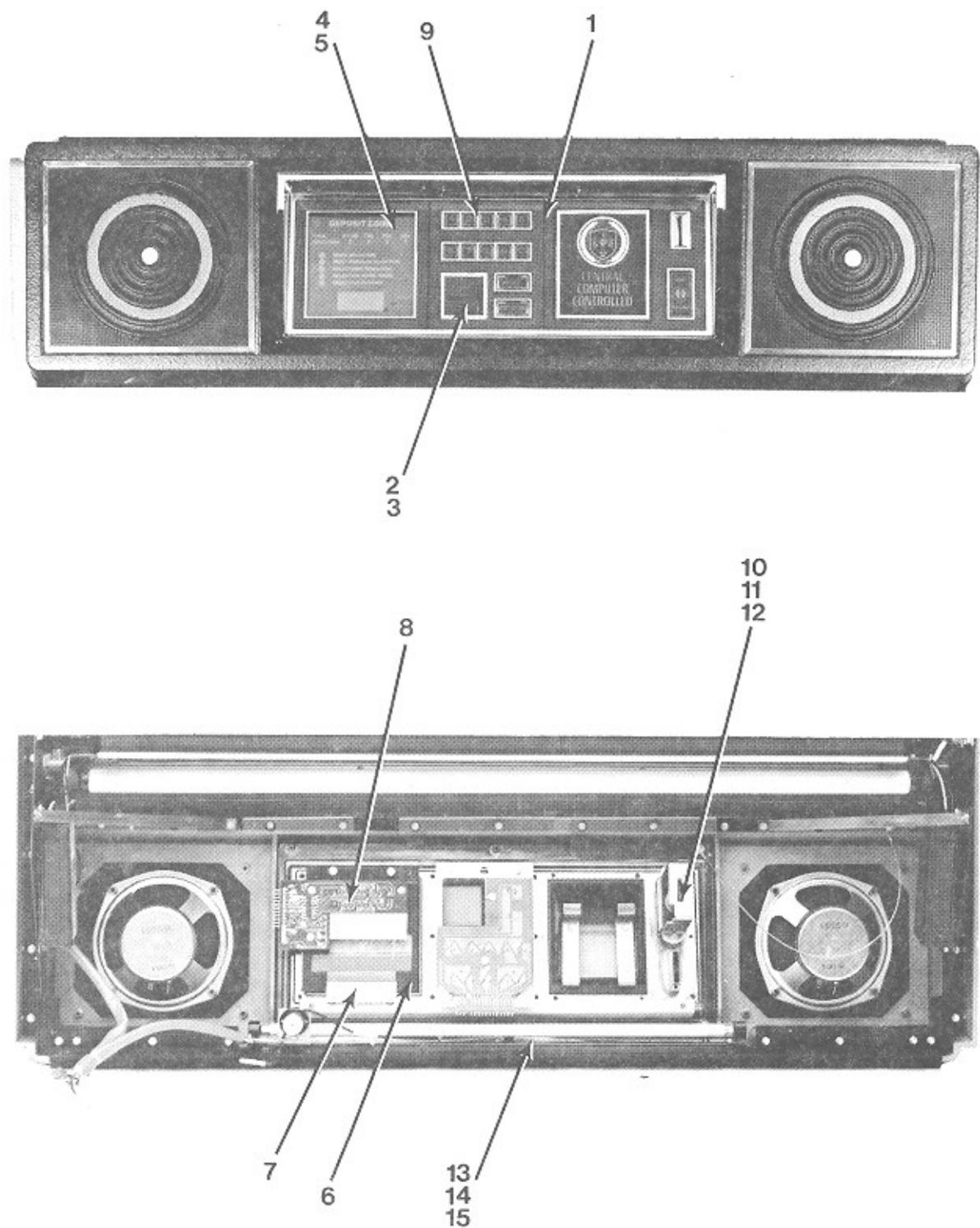


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
4-	6-09388-01	Selector Assembly (Sapphire 7)(Fig 3 Item 4)	
4-	6-09388-02	Selector Assembly (Golden 7)(Fig 3A Item 4)	
1	4-07369-05	. Selector Trim & Insert Assembly (Sapphire 7)	1
	4-07369-06	. Selector Trim & Insert Assembly (Golden 7)	1
	6-08952-03	. . Selector Trim	1
	4-07352-03	. . Selector Insert (Sapphire 7)	1
	4-07352-04	. . Selector Insert (Golden 7)	1
	4-07353-03	. . Price Card Insert (Sapphire 7)	1
	4-07353-02	. . Price Card Insert (Golden 7)	1
	4-07356-03	. . Coin Inlet Insert (Sapphire 7)	1
	4-07356-02	. . Coin Inlet Insert (Golden 7)	1
2	2-18708-01	. Popular Button Label	1
3	3-08554-01	. Label Support	1
4	2-18217-01	. Price Card Window	1
5	7-02124-02	. Cork Composition	4
6	4-07740-01	. Price Card Holder	1
7	2-18218-01	. Price Card Retainer	1
8	4-07733-01	. Digital Display Assembly	1
	4-07741-01	. . Digital Display Printed Wiring Board	1
	7-00350-02	. . Silicon Diode	4
	2-17667-04	. . LED Display	3
	7-00353-03	. . Light Emitting Diode	5
	7-00763-13	. . Post Header Assembly	1
	7-00120-08	. . Resistor (Carbon 1/2 Watt)	2
	7-9901-101	. . Resistor (Carbon 1/4 Watt)	7
9	4-07734-01	. Keyboard Assembly (Sapphire 7)	1
	4-07734-02	. Keyboard Assembly (Golden 7)	1
	3-08357-01	. . Support Plate Assembly	1
	6-08959-02	. . Keyboard Printed Wiring Board	1
	3-08371-01	. . Keyboard Switch	12
	7-00760-16	. . Polarizing Wafer - 90°	1
	3-08552-01	. . Push Button Number Series (Magenta)	1
	3-08552-02	. . Push Button Number Series (Magenta)	1
	3-08552-03	. . Push Button Number Series (Magenta)	1
	3-08552-04	. . Push Button Number Series (Magenta)	1
	3-08552-05	. . Push Button Number Series (Magenta)	1
	3-08552-06	. . Push Button Number Series (Magenta)	1
	3-08552-07	. . Push Button Number Series (Magenta)	1
	3-08552-08	. . Push Button Number Series (Magenta)	1
	3-08552-09	. . Push Button Number Series (Magenta)	1
	3-08552-10	. . Push Button Number Series (Magenta)	1
	3-08553-01	. . Popular Push Button (Magenta)	1
	3-08553-03	. . Reset Push Button (Magenta)	1
	3-08563-01	. . Push Button Number Series (Orange)	1
	3-08563-02	. . Push Button Number Series (Orange)	1
	3-08563-03	. . Push Button Number Series (Orange)	1
	3-08563-04	. . Push Button Number Series (Orange)	1
	3-08563-05	. . Push Button Number Series (Orange)	1
	3-08563-06	. . Push Button Number Series (Orange)	1
	3-08563-07	. . Push Button Number Series (Orange)	1
	3-08563-08	. . Push Button Number Series (Orange)	1
	3-08563-09	. . Push Button Number Series (Orange)	1
	3-08563-10	. . Push Button Number Series (Orange)	1
	3-08553-02	. . Popular Push Button (Orange)	1
	3-08553-04	. . Reset Push Button (Orange)	1
10	2-17429-05	. Reject Button & Shaft Assembly (Magenta)	1
	2-17429-06	. Reject Button & Shaft Assembly (Golden)	1
	2-17413-02	. . Coin Return Shaft	1
	3-06996-05	. . Coin Return Button (Magenta)	1
	3-06996-06	. . Coin Return Button (Orange)	1
11	3-07015-03	. Guide Bracket	1
12	2-18229-01	. Spring	1
13	3-08368-01	. Diffuser	1
14	2-18262-03	. Color Film Diffuser Blue (Sapphire)	1
	2-18262-06	. Color Film Diffuser Orange (Golden)	1
15	2-12815-01	. Push-On Speed Nut	3
	2-18728-01	. Thumb Screw	1
	7-02204-58	. Foamed Tape (Not Shown)	2

**FIGURE
5**

Lamp Control Assembly

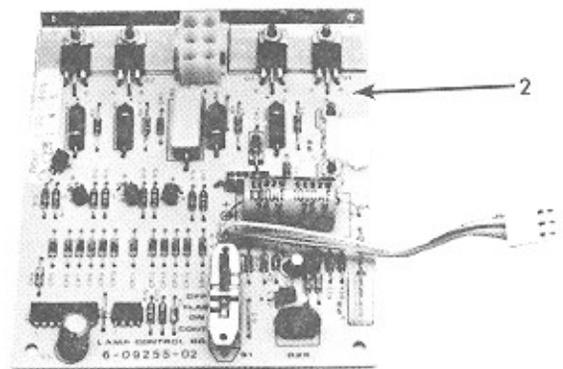
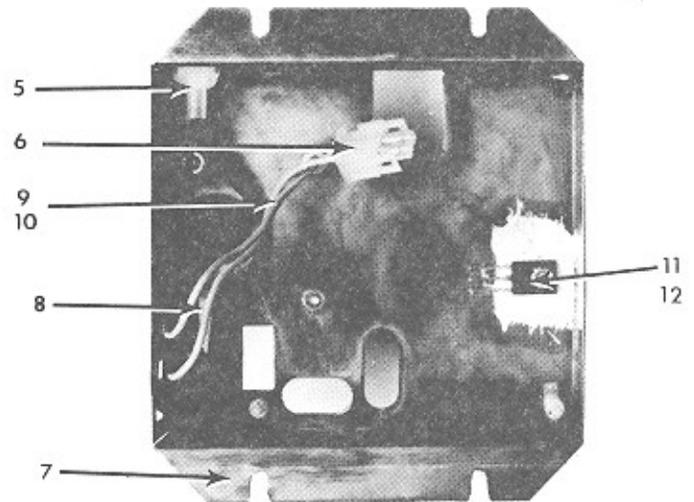
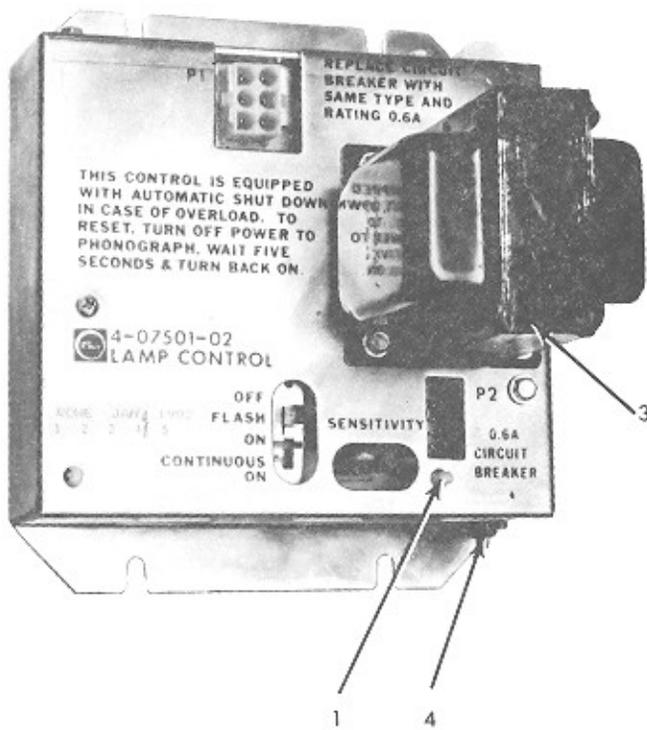


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
--------------------	---------------	-------------	---------------

5-	4-07501-02	Lamp Control Assembly (Fig 1 Item 67)	
1	7-05000-13	. Circuit Board Support	2
2	6-09255-02	. Lamp Control Circuit Board Assembly (See Schem. For P.L.)	1
3	4-07502-01	. Transformer	1
4	7-00733-08	. Circuit Breaker (CB1)	1
5	3-07490-02	. Cap Housing (3 Ckt.)	1
6	3-07491-01	. Cap Housing (2 Ckt.)	1
7	4-07500-02	. Lamp Control Cover	1
8	2-14086-03	. Straight Receptacle	2
9	2-51422-28	. Jumper Assembly	1
	7-00913-22	. . Terminal Lug	1
	7-00975-04	. . Contact	1
10	2-51422-20	. Jumper Assembly	1
	7-00915-05	. . Terminal Lug	1
	7-00975-04	. . Contact	1
11	7-00330-01	. Transistor (Silicon NPN) (Motorola MJE 3055)	1
12	2-15196-01	. Insulator (Mica)	1

Shell Assembly

FIGURE
6

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
6-	6-09350-03	Shell Assembly (Sapphire 7)(Fig 1 Item 75)	
6-	6-09350-04	Shell Assembly (Golden 7)(Fig 1 Item 75)	
	2-15372-01	. Teenut (Mechanism Tie Down)	2
	2-17506-12	. Vent Tube	1
	2-17506-13	. Vent Tube	1
	7-02401-26	. Wire Mesh Screen	1
	3-06257-01	. Hand Hole Cover	4
	2-14518-01	. Lock Spring	1
	3-06340-01	. Caster & Cup Assembly	4
	4-07702-01	. Skid Rail (LH)	1
	2-09326-01	. Teenut	2
	4-07703-01	. Skid Rail (RH)	1
	6-09279-01	. Cash Bag Bracket	1
	4-07704-01	. Edge Trim (LH)	1
	4-07705-01	. Edge Trim (RH)	1
	3-08669-01	. Protective Strap	2
	3-08668-01	. Cabinet Brace	2

FIGURE 7

Stereo Amplifier System Assembly

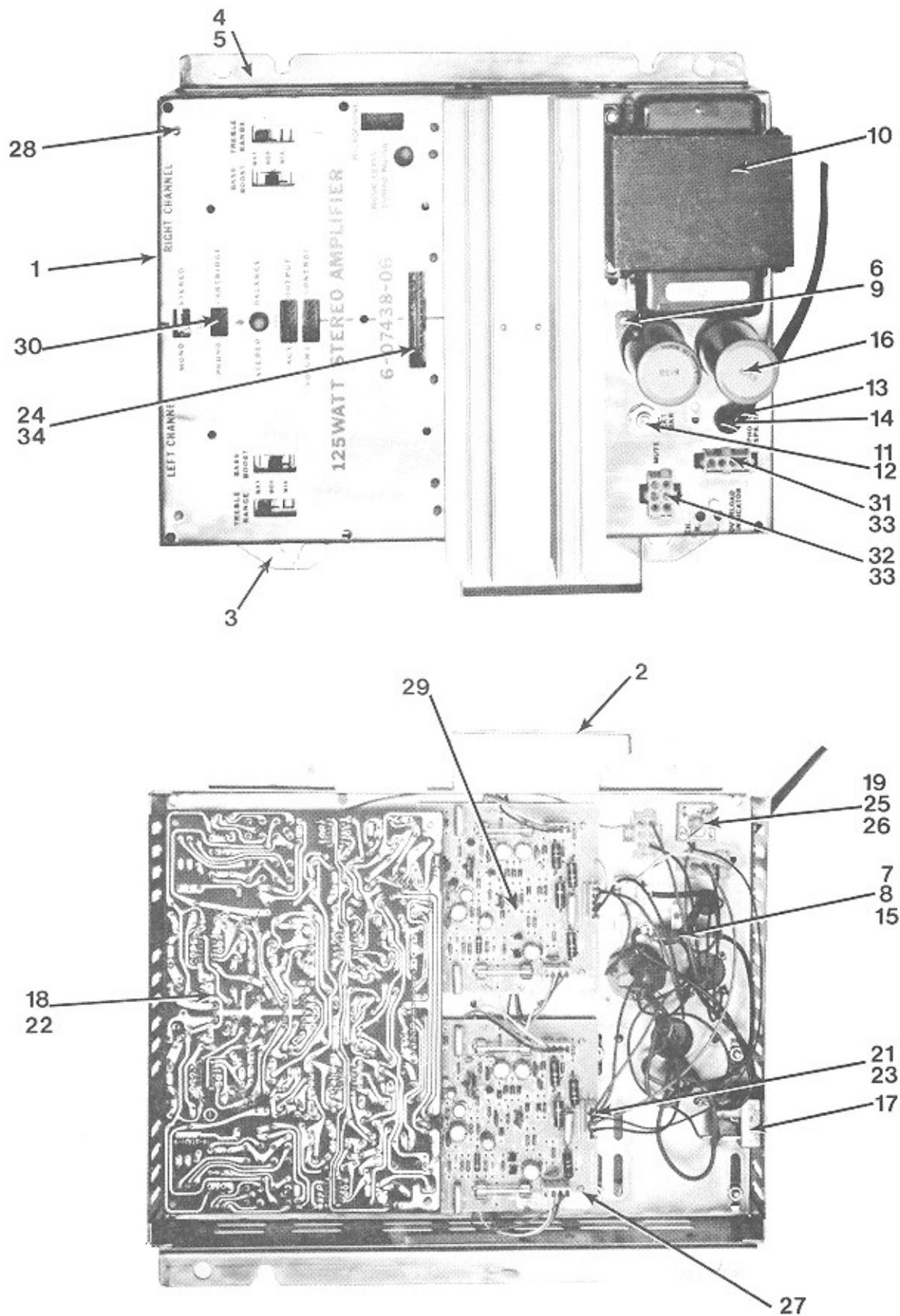


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
7-	6-07438-06	Stereo Amplifier Assembly (Fig 1 Item 69)	
1	6-07441-05	. Chassis Assembly	1
2	2-14881-01	. Handle	1
3	2-09272-01	. Mounting Bracket	2
4	3-06273-01	. Mounting Bracket	1
5	7-01113-20	. Semi Tubular Rivet	10
6	2-13910-01	. Mounting Wafer	1
7	2-17241-01	. Terminal Strip	1
8	7-01110-26	. Semi Tubular Rivet	1
9	7-01110-07	. Semi Tubular Rivet	2
10	4-07378-03	. Power Transformer	1
11	7-00733-11	. Circuit Breaker	1
12	7-01220-11	. Washer	1
13	7-00502-02	. 3 Conductor Cord & Plug	1
14	7-02322-05	. Strain Relief	1
15	7-00213-01	. Mylar Capacitor	1
16	2-18231-01	. Electrolytic Capacitor	2
17	2-18225-01	. Bridge Rectifier	1
18	6-07925-01	. Stereo Preamplifier Assembly (See Schematic for parts list)	1
19	2-18140-02	. Self Locking Capnut	1
20	4-07151-02	. Heat Sink Assembly (See Figure 8)	1
21	7-00755-05	. Connector Housing (5 Ckt.)	2
22	7-00755-02	. Connector Housing (2 Ckt.)	1
23	7-00756-01	. Post Contact	11
24	7-00755-13	. Connector Housing (13 Ckt.)	1
25	7-01216-16	. Spacer	1
26	3-04254-01	. Speaker Overload Ind. Circuit Board Assembly	1
27	7-05000-04	. Circuit Board Support	8
28	7-05000-18	. Circuit Board Support	4
29	4-07101-01	. Driver Circuit Board Assembly (See Power Amplifier	2
30	7-00755-03	. Connector Housing (3 Ckt.) Schem. for Parts Lists)	1
31	3-07490-03	. Cap Housing	1
32	3-07490-04	. Cap Housing	1
33	7-00975-02	. Contacts	8
34		*13 Pin Jumper Plug (Fits Into Item 24)	

FIGURE
8

Heat Sink Assembly

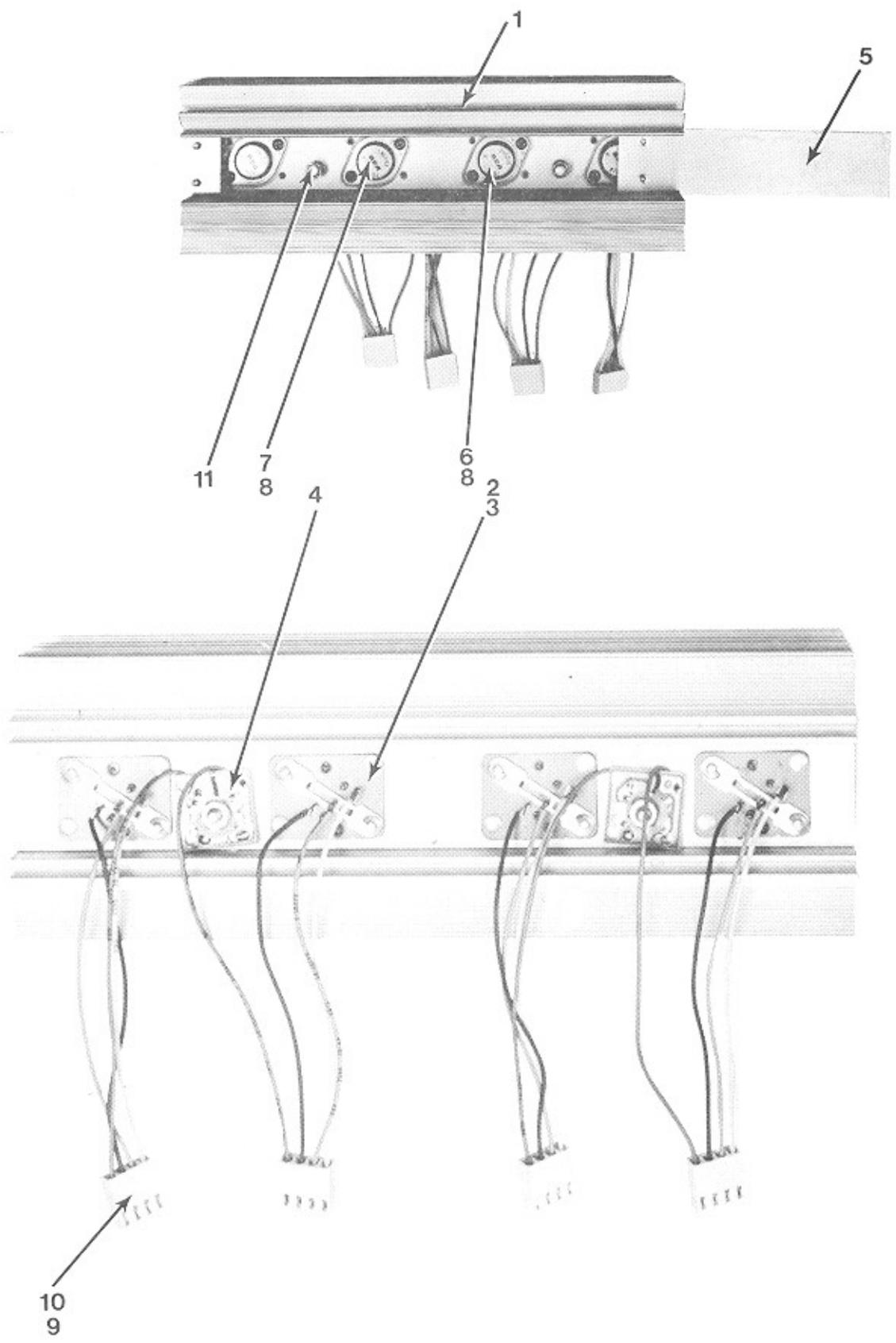


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
8-	4-07151-02	Heat Sink Assembly (Fig 7, Item 20)	
1	4-07103-01	. Heat Sink	1
2	2-15473-01	. Power Transistor Socket	4
3	7-01111-14	. Semi Tubular Rivet	8
4	3-04253-01	. Power Amp Bias Circuit Board Assembly	2
	4-06359-01	. . Power Amp Bias Printed Wiring Board	1
	7-00350-02	. . Silicon Diode	3
	7-00756-01	. . Post Contact	2
5	2-17980-01	. Cover	2
6	7-00302-06	. Transistor (Darlington Amp) (M-SJ6366K, RCA-2N6283)	2
7	7-00302-07	. Transistor (Darlington Amp) (M-SJ6365K, RCA-2N6286)	2
8	2-13189-01	. Insulator	4
9	7-00755-04	. Connector Housing	4
10	7-00756-01	. Post Contact	6
11	7-01200-09	. Washer	2
	7-01217-17	. Spacer	2
	2-18402-01	. Spring - Compression	2

FIGURE
9

Output Transformer Assembly

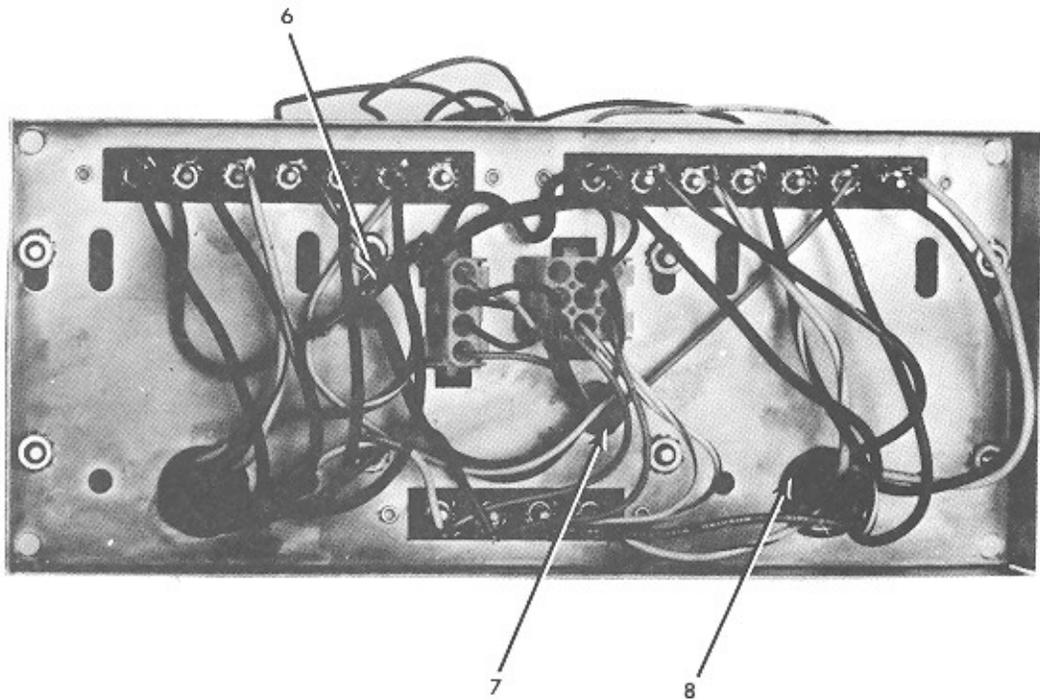
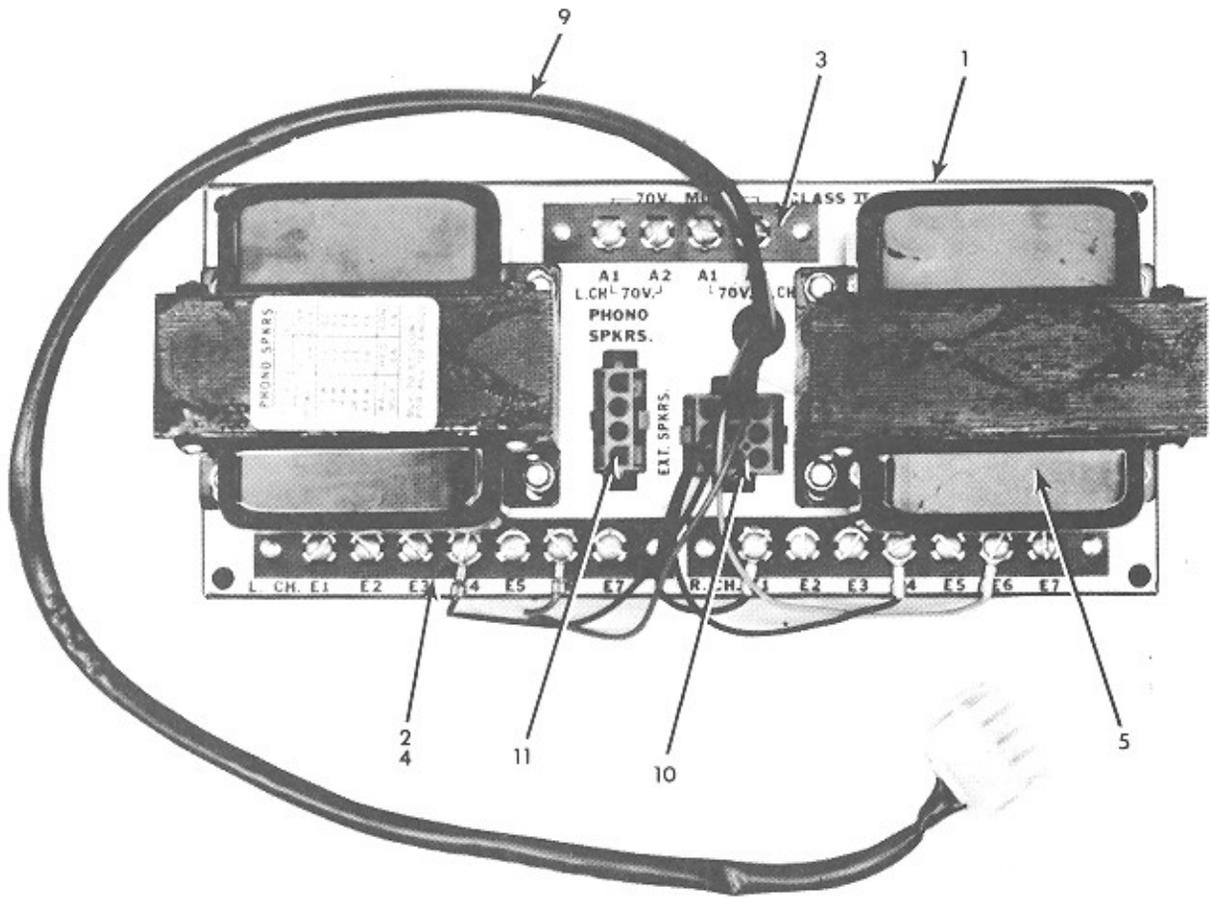


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
9-	4-06336-05	Output Transformer Assembly (Fig 1 Item 68)	
1	3-06260-07	. Output Chassis	1
2	3-04267-05	. Binding Post Strip	2
3	3-04267-03	. Binding Post Strip	1
4	7-01110-07	. Semi Tubular Rivet	6
5	4-06335-01	. Output Transformer	2
6	3-04225-14	. Terminal Strip	1
7	7-02331-01	. Insulating Bushing	1
8	7-02331-02	. Insulating Bushing	2
9	2-15323-05	. Plug & Cable Assembly	1
	3-07491-03	. . Plug Housing	1
	7-00975-01	. . Contact (Pin)	4
10	3-07488-01	. Plug & Cable Assembly	1
	3-07490-05	. . Cap Housing (9 Ckt.)	1
	7-00975-02	. . Contact	8
	7-00910-12	. . Spade Terminal Lug	2
11	2-15373-04	. Plug & Cable Assembly	1
	7-00910-12	. . Spade Terminal Lug	3
	3-07490-03	. . Cap Housing	1
	7-00975-02	. . Contact	4

FIGURE 10

Central Control Computer

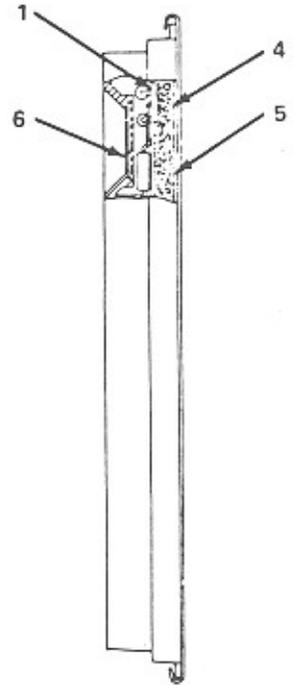
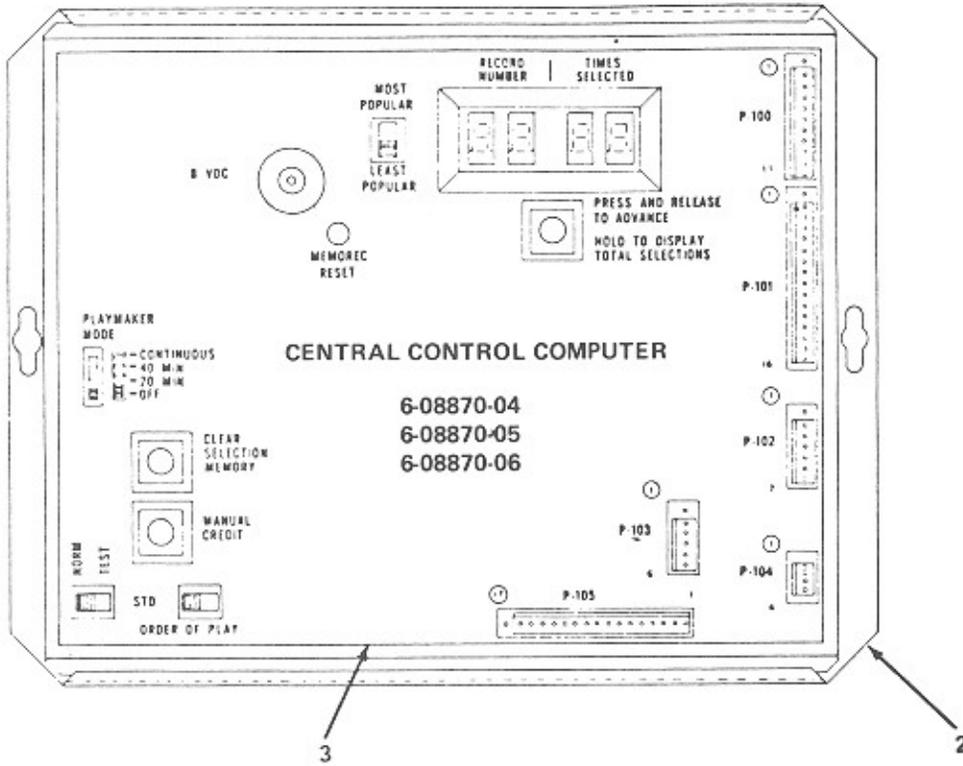


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
10-	6-08870-06	Central Control Computer (Fig 1 Item 33)	
	6-08870-04	Yellow for U.S. & Europe	
	6-08870-05	White for U.S. Only	
	6-08870-06	White for U.S. Only	
1	6-08871-03	. Central Computer Circuit Board Assembly (See Schem. for P.L.)	1
2	6-08883-01	. Central Computer Base	1
3	4-07322-03	. Central Control Computer Cover	1
4	2-17711-06	. Insulation Base	1
5	2-17710-09	. Insulation Pad	1
6	2-17819-05	. Display Card Light Filter	1

FIGURE
11

Main Power Supply

(120V MODEL)

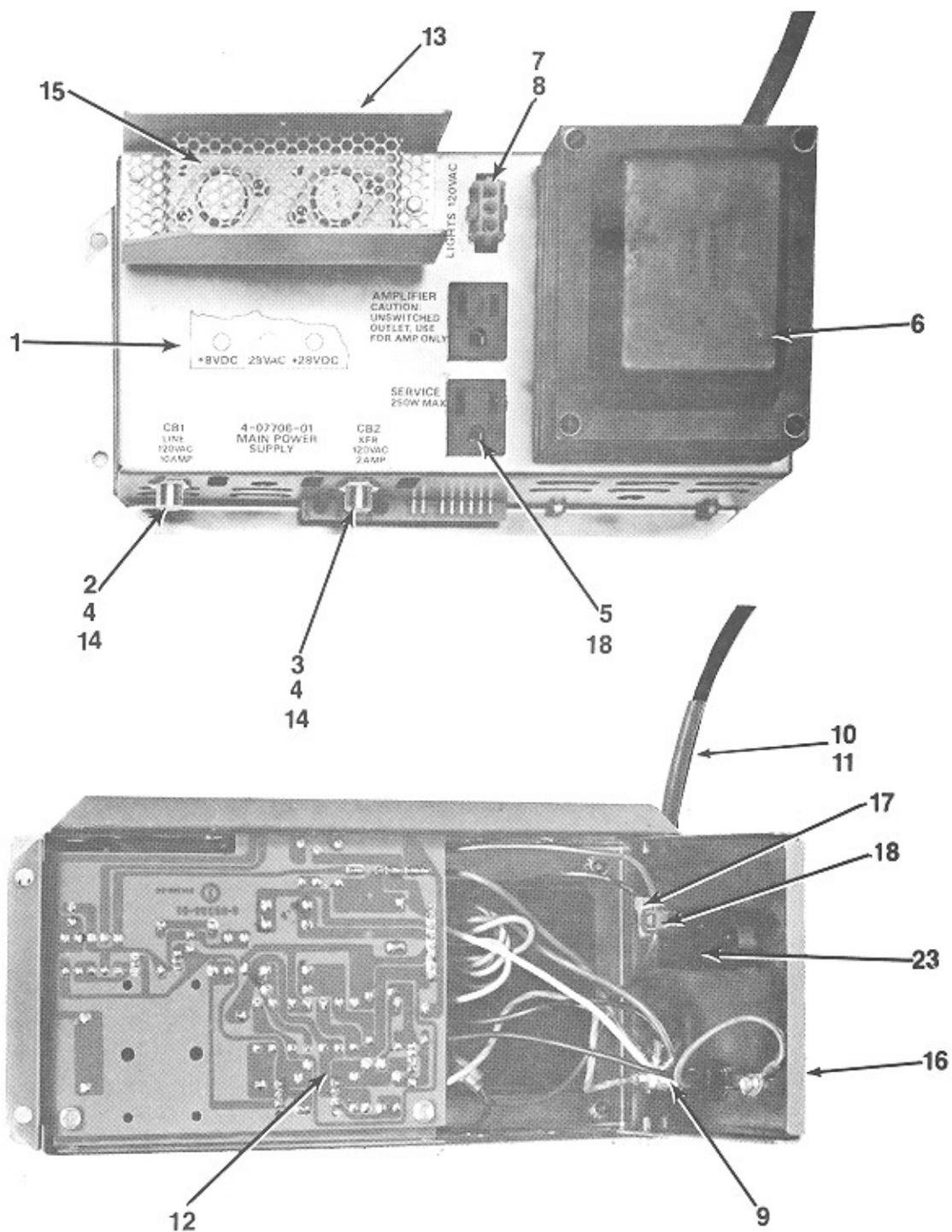


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
11-	4-07706-01	Main Power Supply (120V)(Fig 1 Item 72)	
	4-65092-02	Main Power Supply (220V)	
	4-65092-03	Main Power Supply (240V)	
1	4-07719-01	. Chassis Assembly	1
2	7-00734-25	. 10 Amp Circuit Breaker	1
3	7-00733-15	. 2 Amp Circuit Breaker	1
4	7-01220-01	. Washer (Internal Lock) Part of Breaker	2
5	2-13759-01	. 3 Wire Convenience Outlet	2
6	4-07720-01	. Transformer & Harness Ass'y	1
	4-07720-26	. . Power Transformer (120V)	1
	4-65093-26	. . Power Transformer (220V-240V)	REF
	7-00756-01	. . Post Contact	6
	7-00756-01	. . Post Contact (220V - 240V)	5
	7-00975-04	. . Contact	1
	7-00913-08	. . Terminal Lug	1
	7-00913-08	. . Terminal Lug (220V - 240V)	4
7	3-07490-02	. Cap Housing	1
	7-00975-04	. Contact (220V - 240V)	3
8	7-00975-04	. Contact (120V)	2
	7-00913-08	. Terminal Lug (120V)	2
	7-00913-08	. Terminal Lug (220V - 240V)	4
9	7-00915-11	. Ring Terminal	2
10	3-08345-06	. Power Cord Assembly (120V)	1
	3-65365-01	. Power Cord Assembly (220V - 240V)	1
11	7-02321-04	. Strain Relief	1
12	6-09357-01	. Circuit Board Assembly	1
13	4-07331-02	. Heat Sink and Power Transistor Assembly	1
	3-08343-01	. . Power Supply Heat Sink	1
	7-00308-07	. . Transistor (Darlington)(2N6055) (Motorola, RCA)	2
	2-13189-01	. . Insulator	2
	2-18342-01	. . Power Transistor Socket	2
	7-00755-04	. . Connector Housing	2
	7-00756-01	. . Post Contact	6
	7-00757-02	. . Keying Post	2
14	2-14086-02	. Straight Receptacle (120V)	4
	2-14086-02	. Straight Receptacle (220V - 240V)	8
	7-00734-21	. Breaker 220/240 (5A) (Not Shown)	2
	7-00734-22	. Breaker 220/240 (6A) (Not Shown)	1
15	2-18281-01	. Heat Sink Cover	1
16	3-08673-01	. Switch Panel	1
17	7-00967-01	. Insulated Faston (120V)	4
	7-00967-01	. Insulated Faston (220V - 240V)	3
18	7-00992-01	. Self Stripping Terminal	5
19	7-00991-01	. Self Stripping Splice	1
20	7-00755-08	. Connector Housing (Not Shown)	1
21	7-00757-02	. Keying Plug (Not Shown)	1
22	7-00756-01	. Post Contact (120V) (Not Shown)	1
	7-00756-01	. Post Contact (220V - 240V)	2
23	3-07857-01	. Rocker Switch (120V)	1
	3-07857-02	. Rocker Switch (220V - 240V)	1
	2-17241-01	. Terminal Retainer Strip (220V - 240V)	1

FIGURE
12

Mechanism Assembly Sheet 1

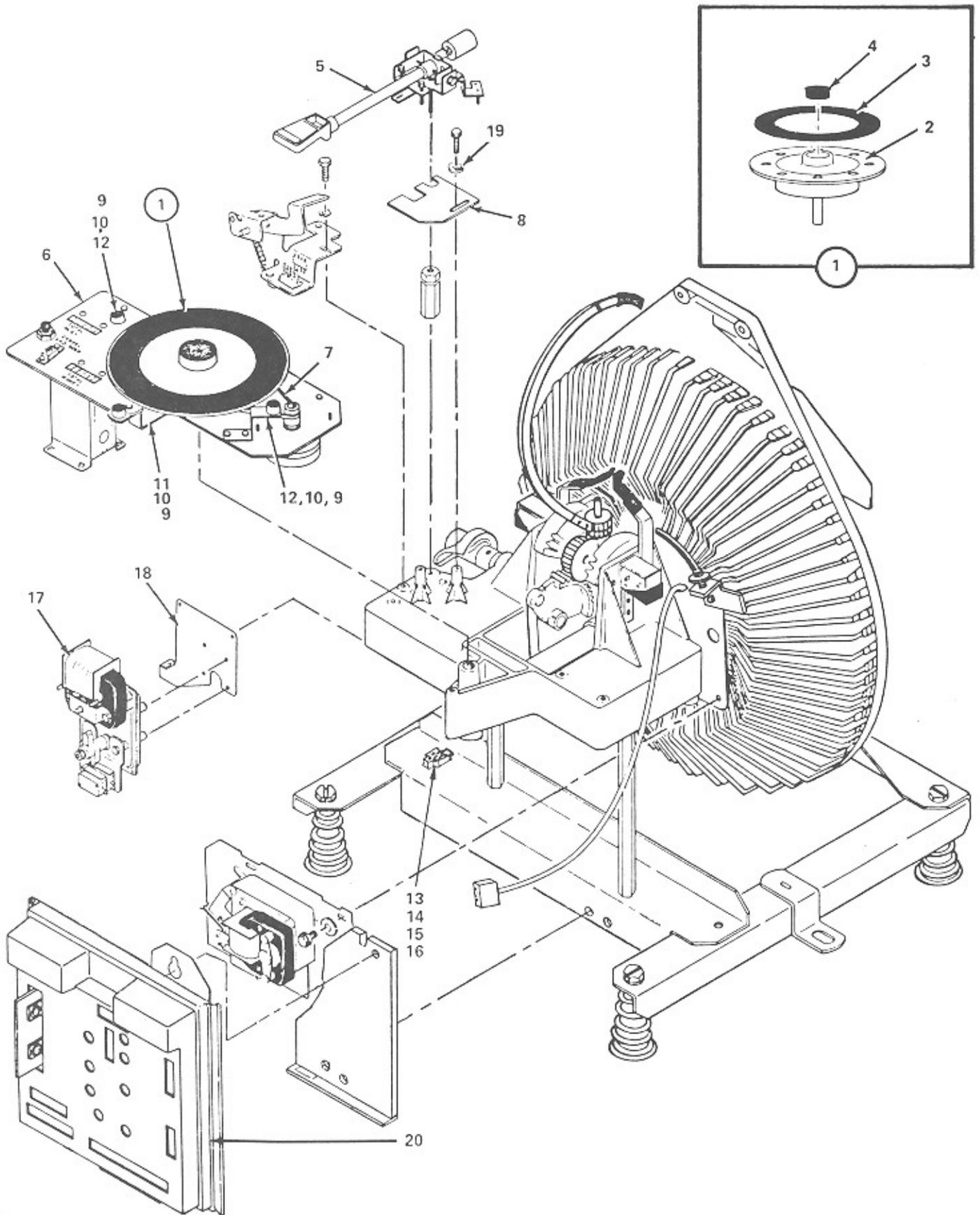


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
12-	6-08700-01	Mechanism Assembly (Fig 1 Item 27)(60Hz)	
	6-08700-02	Mechanism Assembly (Fig 1 Item 27)(50Hz)	
1	3-07921-01	. Turntable Assembly	1
2	4-07215-01	. . Turntable & Shaft Assembly	1
3	3-05235-01	. . Turntable Face	1
4	2-18163-01	. . Hole Plug	1
5	4-07217-01	. Tone Arm & Pivot Assembly (See Fig 13)	1
6	3-07935-01	. Plate & Counter Assembly	1
	2-15818-01	. . Momentary Contact Switch	1
	3-07942-01	. . Brush Holder	1
	2-02182-01	. . Brush	1
	4-07220-01	. . Counter Mounting Plate	1
	2-18137-01	. . Counter Assembly	1
	2-15383-02	. . . Counter	1
	2-14418-02	. . . Electric Counter	1
	7-00921-04	. . . Solderless Connector	4
	7-00755-05	. . . Connector Housing	1
	7-00756-01	. . . Post Contact	4
	7-00757-02	. . . Keying Plug	1
7	3-07922-01	. Turntable Drive Belt	1
8	3-07938-02	. Tone Arm Cutoff Circuit Board Assembly	1
	4-07225-02	. . Printed Wiring Board	1
	2-10726-02	. . Reed Switch	1
	7-00760-02	. . Polarizing Wafer 90°	1
	2-18181-01	. . Contact	1
	7-00770-01	. . Socket - Mini Spring	2
9	2-09300-04	. Accordion Rivet	3
10	2-18139-01	. Grommet	3
11	2-18122-01	. Gripper Bow Bracket (Front)	1
12	2-18121-01	. Gripper Bow Bracket (Side)	2
13	4-07224-01	. Mechanism Harness Assembly	1
	3-07490-05	. . Cap Housing (9 Ckt.)	1
	3-00795-01	. . Contact	7
	3-00795-03	. . Contact	2
	7-00755-02	. . Connector Housing	1
	7-00755-08	. . Connector Housing	1
	7-00755-10	. . Connector Housing	1
	7-00756-01	. . Post Contact	17
	7-00757-01	. . Keying Plug	1
	7-00757-02	. . Keying Plug	2
	7-00913-02	. . Terminal Lug	5
	7-00913-06	. . Terminal Lug	2
	7-00913-08	. . Terminal Lug	2
	7-00913-14	. . Terminal Lug	9
	7-00916-02	. . Spade Terminal Lug	1
	7-00921-07	. . Solderless Connector	1
	7-08001-07	. . Cable Tie	20
14	2-07545-01	. Clip	1
15	2-05545-01	. Cable Clip	1
16	7-00934-01	. Cable Clamp	1
17	4-07208-01	. Cam Switch & Motor Assembly (See Fig 15)	1
18	3-07907-01	. Motor Mounting Plate	1
19	7-01200-02	. Washer	1
20	4-07221-02	. Mechanism Control Unit	1
	3-07943-02	. . Mechanism Control Base	1
	2-17710-08	. . Insulating Pad	1
	2-17711-05	. . Insulating Base	1
	6-08708-02	. . Mechanism Control Circuit Board Ass'y (See Schem. for P.L.)	1
	4-07231-02	. . Cover	1

Mechanism Assembly Sheet 2

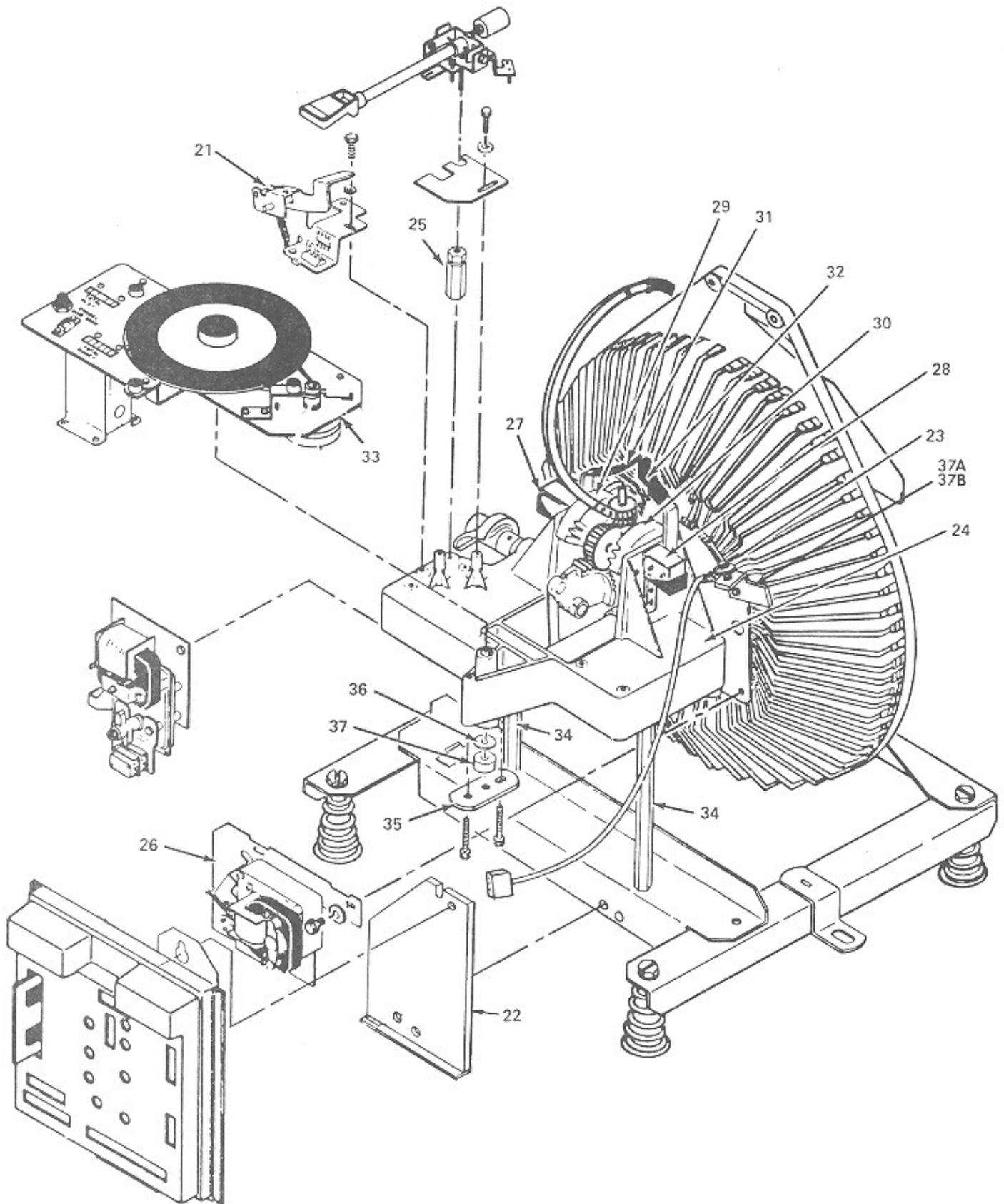


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
12-	6-08700-01	Mechanism Assembly (Continued)	
21	3-07926-01	. Lifting Lever & Bracket Assembly	1
	2-18158-01	. . Lifting Lever Bracket Assembly	1
	2-18159-01	. . Lifting Lever Assembly	1
	7-01430-05	. . Retaining Ring	1
	2-15760-01	. . Tension Spring	1
	2-18162-01	. . Grounding Clip	1
	7-00745-04	. . Chassis Mount Wafer (4 Ckt.)	1
	7-01111-06	. . Semi Tubular Rivet	1
22	3-08541-01	. Mechanism Control Mount	1
23	3-07927-01	. Optical Switch Assembly	1
	3-07945-01	. . Mounting Bracket	1
	3-07944-01	. . Optical Switch & Connector Assembly	1
	4-07226-01	. . . Optical Switch	1
	7-00755-05	. . . Connector Housing	1
	7-00757-02	. . . Keying Plug	1
	7-00756-01	. . . Contact Post	1
	7-08001-01	. . Cable Tie	2
24	7-03122-01	. Mechanism Name Plate	1
25	2-10708-02	. Bearing Assembly	1
26	4-07219-01	. Sprag Assembly (See Fig 14)	1
27	2-18182-01	. Toggle Solenoid Assembly (LH)	1
28	2-18183-01	. Toggle Solenoid Assembly (RH)	1
29	3-07905-01	. Rotator Assembly (LH)	1
30	3-07906-01	. Rotator Assembly (RH)	1
31	2-18118-01	. Record Guide Assembly (LH)	1
32	2-18119-01	. Record Guide Assembly (RH)	1
33	3-07917-01	. Turntable Motor & Plate Assembly (60Hz)	1
	3-07917-02	. Turntable Motor & Plate Assembly (50Hz)	1
	3-07918-01	. . Turntable Motor Mounting Plate	1
	2-18171-02	. . Turntable Belt Guide	1
	3-07919-07	. . Turntable Motor Assembly (60Hz)	1
	3-07919-08	. . Turntable Motor Assembly (50Hz)	1
	2-18178-01	. . Motor Pulley (45 Rpm) 60Hz	1
	2-18178-02	. . Motor Pulley (45 Rpm) 50Hz	1
34	2-18125-01	. Mech Support	2
35	2-18124-01	. Cap Plate	1
36	2-10364-01	. Thrust Bearing	1
37	2-10866-01	. Spacer Bearing	1
37A	2-18186-01	. Adjusting Bracket Ass'y	1
37B	2-18184-01	. Adjusting Knob	1

FIGURE
12

Mechanism Assembly Sheet 3

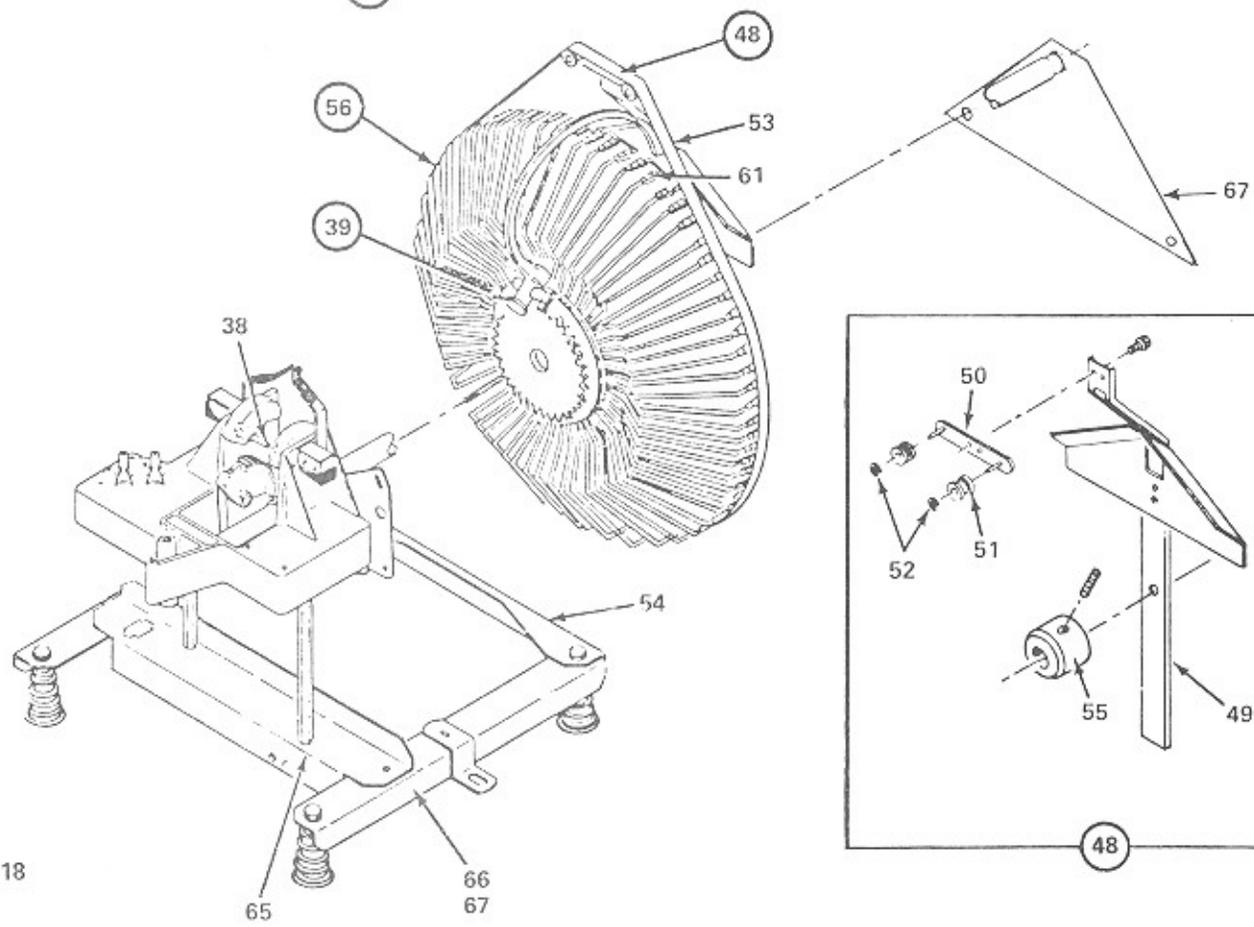
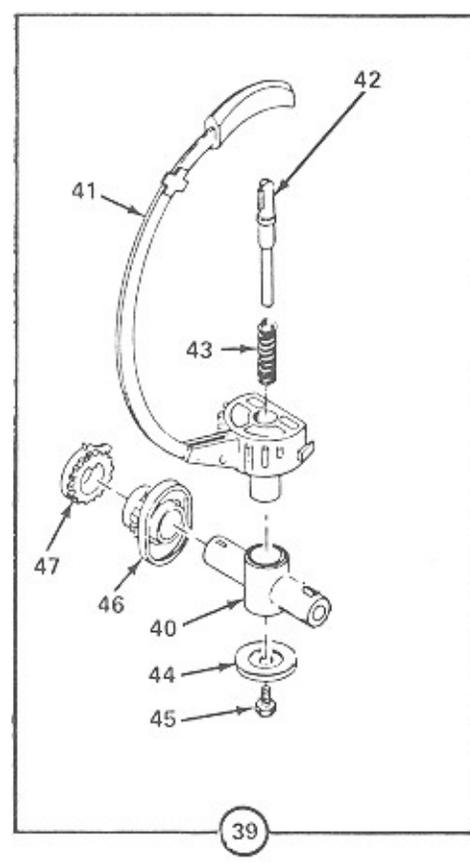
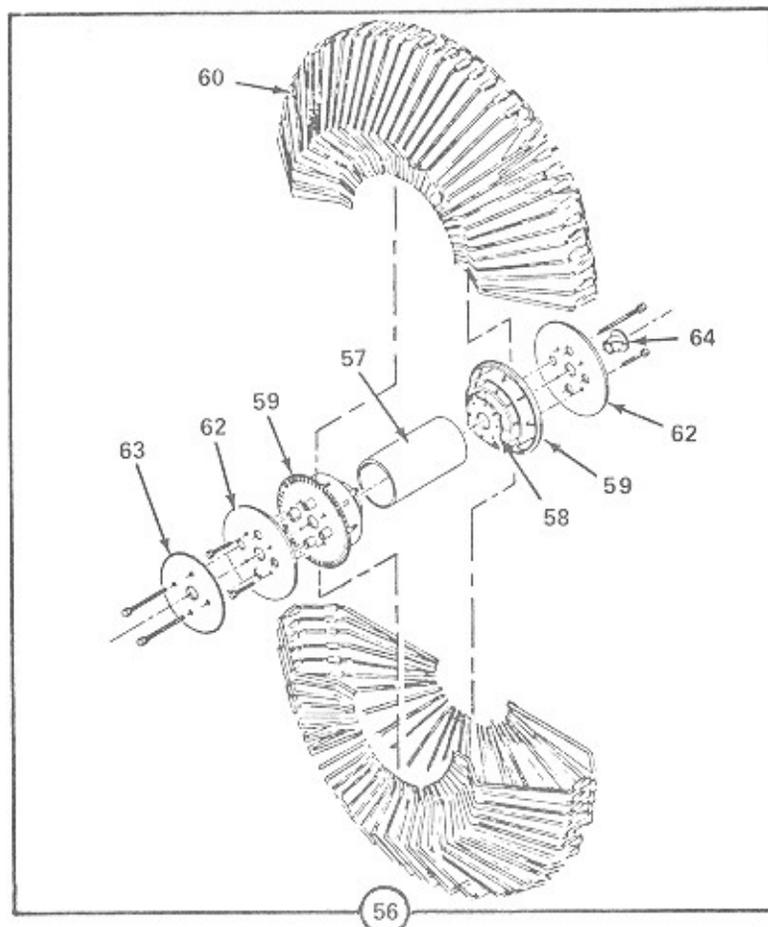


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
12-	6-08700-01	Mechanism Assembly (continued)	
38	2-10792-02	. Trunnion Pin	2
39	4-07207-01	. Gripper & Trunnion Assembly	1
40	3-07910-01	. . Trunnion	1
41	3-05197-02	. . Gripper Bow & Hub Assembly	1
42	2-10808-03	. . Inner Shoe Assembly	1
43	2-10811-01	. . Record Release Spring	1
44	2-18115-01	. . Cam Follower	1
45	2-18117-01	. . Lock Screw	1
46	4-07204-01	. . Cam Gear	1
47	4-07206-01	. . Trunnion Gear	1
48	4-07212-01	. Guide & Belt Support Assembly	1
49	4-07213-01	. . Gripper Bow Guide Assembly	1
50	2-10894-01	. . Roller Bracket Assembly	1
51	2-03843-01	. . Belt Roller	2
52	7-01430-03	. . Retaining Ring	2
53	2-18138-01	. Belt	1
54	3-07925-01	. Support Frame Rear Angle	1
55	2-18126-01	. Collar	1
56	6-08703-01	. Magazine Assembly	1
57	4-07200-01	. . Hub Spacer	1
58	3-07902-01	. . Hub Anchor Plate	2
59	6-08702-01	. . Magazine Hub	2
60	4-07201-01	. . Record Magazine Separator	100
61	4-07202-01	. . Belt Guide	100
62	3-07903-01	. . Cover Plate	2
63	3-07904-01	. . Magazine Gear	1
64	7-01460-01	. . Bearing	2
65	2-11013-01	. Lock Nut	2
66	3-07914-01	. Mechanism Support & Spring Assembly	1
	3-07915-01	. . Mech Support Assembly	1
	2-06272-01	. . Spring Support (Upper)	4
	2-06128-03	. . Mech Mounting Spring	4
67	4-07232-01	. Support Magazine	1

**FIGURE
12**

Mechanism Assembly Sheet 4

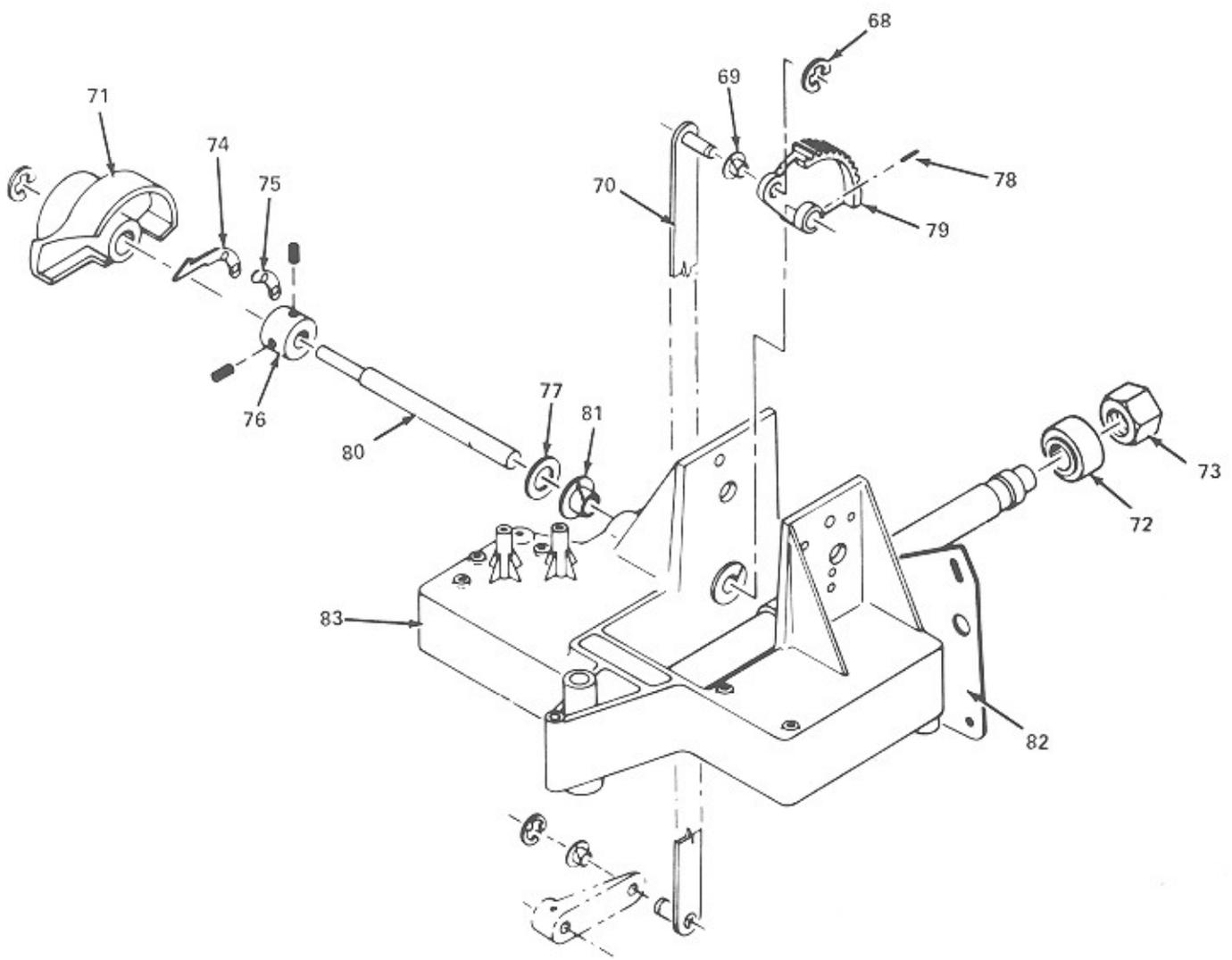


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
12-	6-08700-01	Mechanism Assembly (continued)	
68	7-01430-04	. Retaining Ring	3
69	7-01460-04	. Bearing	2
70	2-18102-01	. Transfer Link Assembly	1
71	2-18187-01	. Cam & Insert Assembly	1
72	2-51569-06	. Shoulder Washer	1
73	7-01301-09	. 9/16 x 18 Jam Nut	1
74	2-18148-01	. . Cam Spring	1
75	2-18149-01	. . Cam Spring Plate	1
76	2-18133-01	. Cam Collar	1
77	7-01225-33	. Bowed Washer	1
78	7-01130-19	. Roll Pin	1
79	4-07205-01	. Sector Gear	1
80	2-18132-01	. Tone Arm Drive Shaft	1
81	7-01460-05	. Bearing	2
82	4-07218-01	. Intermediate Mounting Plate	1
83	4-07211-01	. Base Assembly	1
	6-08707-01	. . Mechanism Base	1
	3-07913-01	. . Magazine Support Shaft	1
	2-10377-01	. . Bearing	2

**FIGURE
13**

Tone Arm and Pivot Assembly

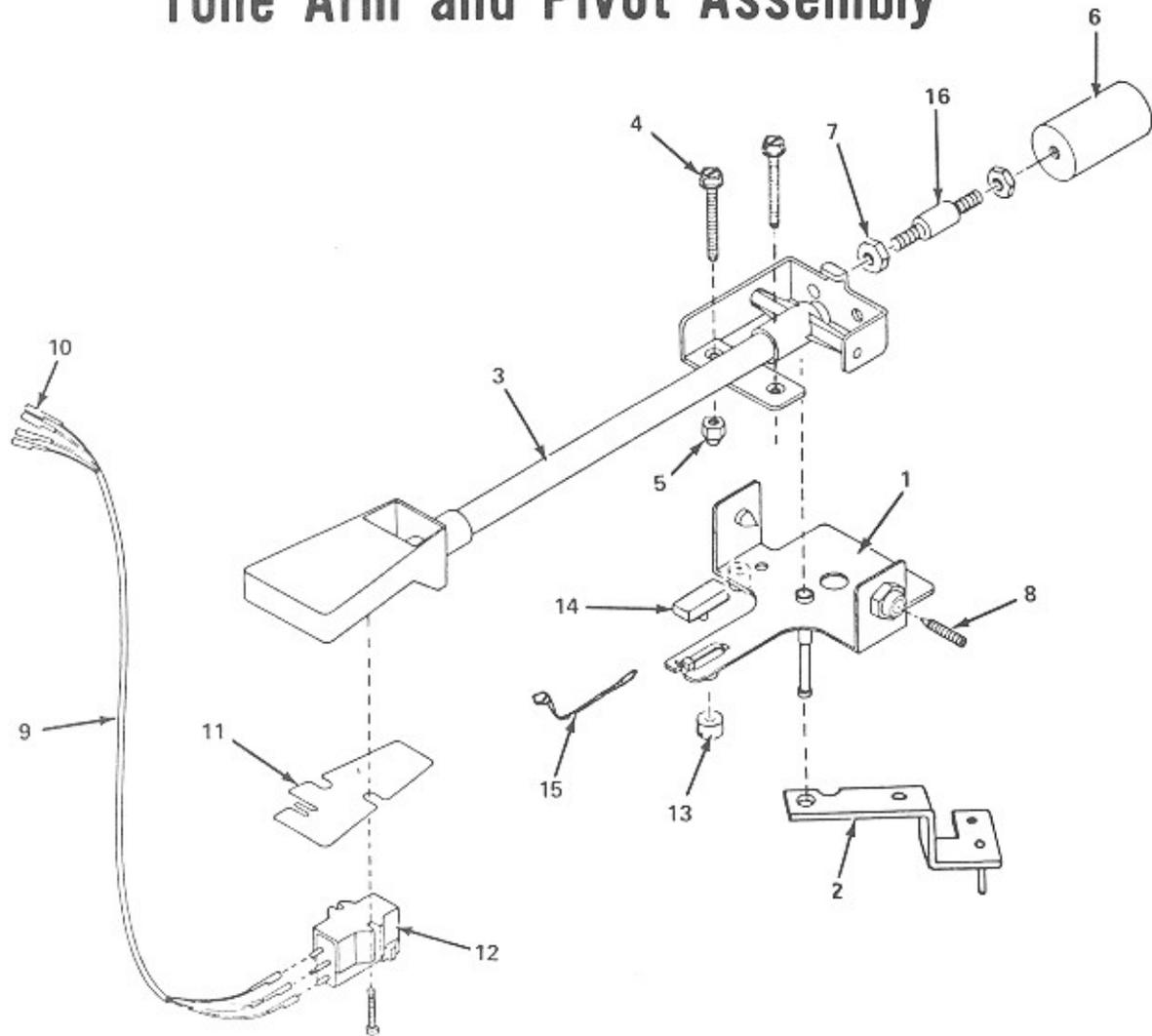


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
13-	4-07217-01	Tone Arm & Pivot Assembly (Fig 12 Item 5)	
1	2-18141-01	. Bracket & Shaft Assembly	1
2	2-18142-01	. Guide Plate Assembly	1
3	3-07928-01	. Tone Arm & Lever Assembly	1
4	2-65025-01	. Contact Screw	2
5	2-18140-02	. Self Locking Cap Nut	1
6	2-18143-02	. Counter Weight	1
7	7-01355-02	. Locknut	1
8	2-10712-01	. Pivot Screw	1
9	2-18144-01	. Tone Arm Cable Assembly	1
10	7-00927-10	. . Pin Receptacle	8
11	2-18130-01	. Tone Arm Shielding Clip	1
12	2-13011-01	. Stereo Phono Cartridge	1
	2-18340-01	. . Stylus Assembly	1
13	2-18147-01	. Magnet - Reed	1
14	2-18146-01	. Magnet Clip	1
15	7-08001-09	. Cable Tie	1
16	2-18177-01	. Vibration Isolator	1

Sprag Assembly

FIGURE
14

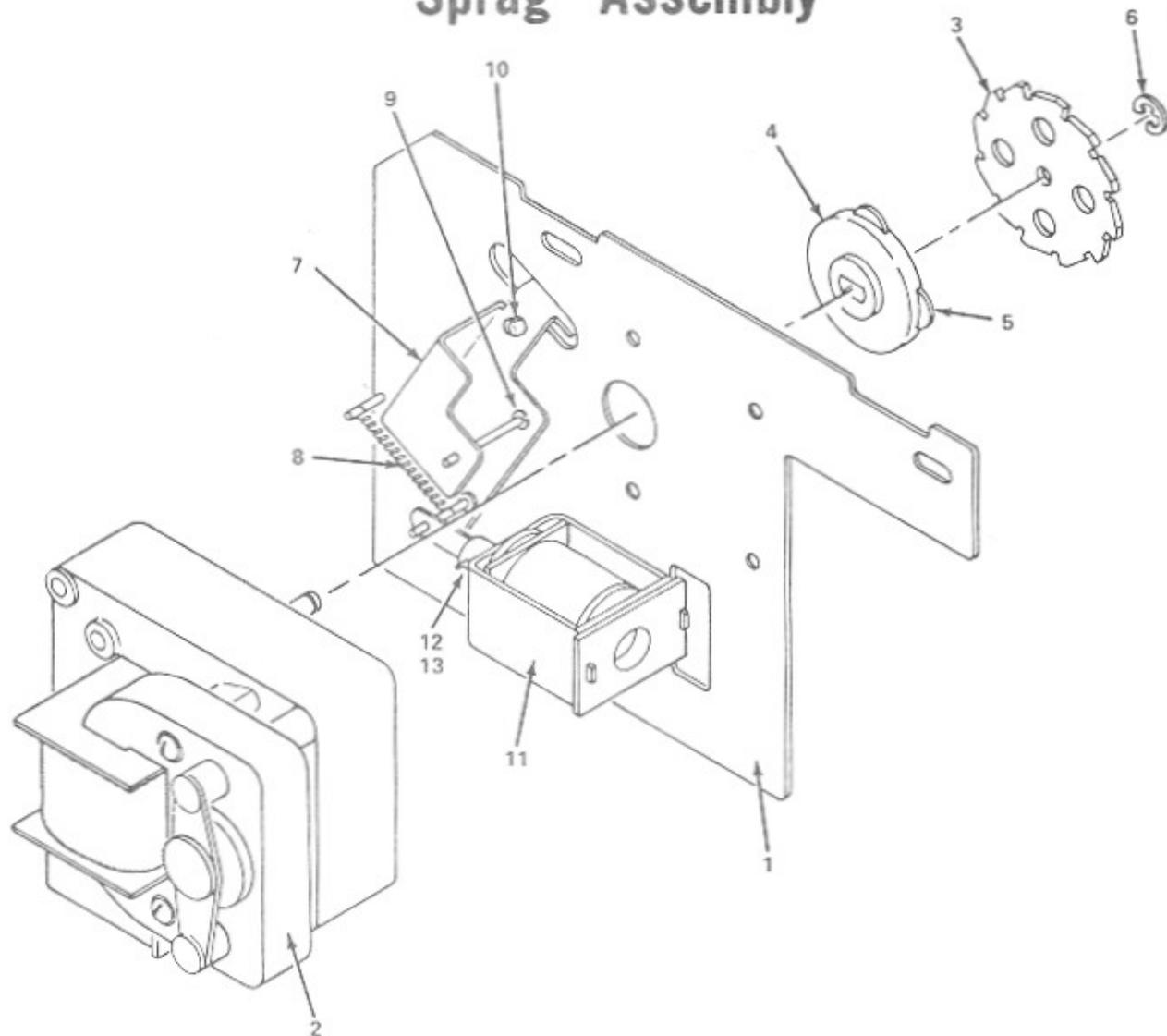


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
14-	4-07219-01	Sprag Assembly (Fig 12 Item 26)	1
1	3-07939-01	. Sprag Plate Assembly	1
2	4-07227-01	. Magazine Motor	1
3	4-07223-01	. Sprag Wheel	1
4	3-07933-01	. Sprag Wheel Hub	1
5	2-18161-01	. Stem Bushing	4
6	7-01430-03	. Retaining Ring	1
7	2-18160-01	. Sprag Lever Assembly	1
8	2-12562-01	. Tension Spring	1
9	7-01430-05	. Retaining Ring	1
10	2-51559-01	. Split Stem Bumper	2
11	2-11505-10	. Solenoid Assembly	1
12	2-10857-01	. Plunger Assembly	1
13	2-10849-02	. Plunger Stop	1

**FIGURE
15**

Cam Switch And Motor Assembly

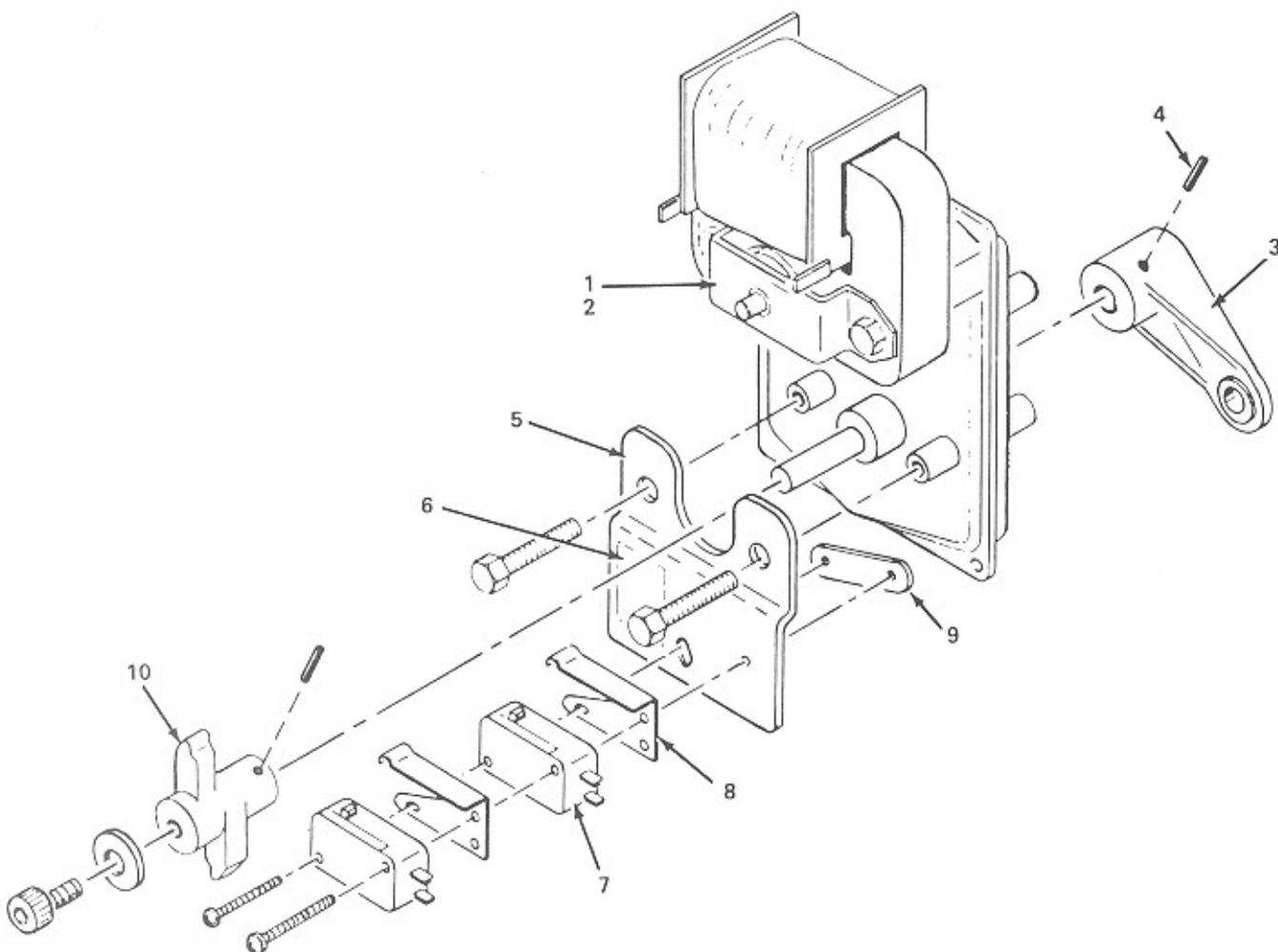


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
15-	4-07208-01	Cam Switch & Motor Assembly (Fig 12 Item 17)	
1	3-07908-01	. Motor & Crank Assembly	1
2	4-07209-01	. . Cam Motor	1
3	2-18104-01	. . Trunnion Crank	1
4	7-01131-16	. . Roll Pin	2
5	3-07909-01	. Switch Plate	1
6	2-18169-01	. Cam Switch Label	1
7	2-10731-01	. Switch	2
8	2-10829-01	. Switch Actuator	2
9	2-10830-01	. Twin Nut	1
10	3-07934-01	. Switch Cam	1