

Service Manual
Parts Catalog



Model R-80 phonograph

THE AUTOMIX COMPONENTS AND CIRCUITRY SHOWN
IN THIS PUBLICATION IS OPTIONAL. AUTOMIX PER-
MITS 33 AND 45 RPM RECORDS TO BE PLAYED INTER-
CHANGEABLY. IF AUTOMIX IS REQUIRED, ORDER KIT
NO. 202-66681.



Rowe international, inc.

A SUBSIDIARY OF TRIANGLE INDUSTRIES, INC.
75 TROY HILLS RD., WHIPPANY, N.J. 07981, TEL. (201) 897-0400. CABLE: REVENO

PART NO. 201-17700, B Edition

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SPECIFICATIONS

GENERAL

DEPTH	27-1/2 in. (70cm)
WIDTH	41-7/8 in. (106 cm)
HEIGHT	50-11/16 in (129 cm)
SHIPPING WEIGHT (DOMESTIC)	400 lbs.
SHIPPING WEIGHT (EXPORT)	415 lbs.
NET WEIGHT	360 lbs. (163 kg)
POWER REQUIREMENTS	120 vac, 60 Hz, 490 watts, 4.9 amps
	220 vac, 50 Hz, 570 watts, 6.2 amps

RECORD CHANGER MECHANISM

CAPACITY	100 records
RECORD SIZE	7 inches
SPEED	33 and 45 rpm

CREDIT AND PRICING SYSTEM

ACCUMULATOR TYPE CREDIT COMPUTER -- DOLLAR BILLS	OPTIONAL
COINS ACCEPTED	Nickels
	Dimes
	Quarters
	Half-Dollars
TOTAL CREDIT ACCUMULATIONS	255 Standard Plays
PRICING	See pricing chart

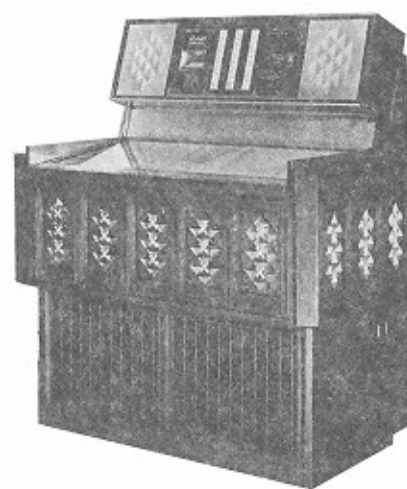
SOUND SYSTEM

CARTRIDGE	
TYPE	Shure Dynetic variable reluctance
FREQUENCY RESPONSE	20 to 20,000 Hz
CHANNEL SEPARATION	25 db @ 1,000 Hz
NOMINAL COMPLIANCE	7.5×10^{-6} cm/dyne
TRACKING FORCE	4 grams
OUTPUT	7 mv.
STYLUS	0.7 mil, diamond
POWER AMPLIFIER	
POWER OUTPUT PER CHANNEL, 64 WATT AMPLIFIER	32 watts rms (70-volt output)
POWER OUTPUT PER CHANNEL, 120 WATT AMPLIFIER	60 watts rms (70-volt output)
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-80



IMPERIAL MODEL



FLEETWOOD MODEL

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 28 watts in dual channel position

SPEAKER SYSTEM

	LOW FREQUENCY	MID FREQUENCY	HIGH FREQUENCY
SPEAKER DIAMETER.	10 inches	6 inches	3 inches
CROSSOVER		350 Hz	5,000 Hz
SYSTEM FREQUENCY RESPONSE	50 to 17,000 Hz		

LIGHTING

SIDES	Fluorescent, 8 watts, 12 inches (2) 702-00601
SELECTOR AND TITLE RACK	Fluorescent, 25 watts, 33 inches, 706-00601
FRONT DOOR	Fluorescent, 25 watts, 33 inches, 706-00601
CREDIT WINDOW	Incandescent, No. 757, (2) 28 V, 200-50562

FUSES AND CIRCUIT BREAKERS

JUNCTION BOX

120 VAC CIRCUIT	10 Amp Circuit Breaker, 725-00734
120 VAC CIRCUIT (TRANSFORMER PRIMARY ONLY).	2 Amp Circuit Breaker, 715-00733
30 VDC CIRCUIT	3 Amp Circuit Breaker, 717-00733

JUNCTION BOX, 220V

220/240 VAC CIRCUIT	3 Amp Circuit Breaker, 717-00734
120 VAC CIRCUIT	6 Amp Circuit Breaker, 722-00734
30 VAC CIRCUIT	6 Amp Circuit Breaker, 722-00734
30 VDC CIRCUIT	3 Amp Circuit Breaker, 717-00733

AMPLIFIER

Stereo 64 W	
120 VAC CIRCUIT	1-1/2 Amp Circuit Breaker, 713-00733
DC CIRCUIT	3 Amp Fuse, 708-00720 (4)
Stereo 120 W	
120 VAC CIRCUIT	3 Amp, Circuit Breaker, 717-00733
DC CIRCUIT	5, Amp, Type MTH-5, Fuse, 710-00720 (4)

CREDIT COMPUTER	1/4 Amp, Cartridge Fuse, 707-00720
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SPEAKER SYSTEM consists of two 10-inch low frequency speakers, two 6-inch speakers for mid-frequencies, and two high frequency tweeters. Crossover networks are also provided. (Bass speakers mounted in cabinet below).

SELECTOR ASSEMBLY consists of 3 push-button switch banks, a latch coil, a select pulse and latch relay, and a start relay. Each pushbutton completes a circuit to a corresponding search unit commutator segment. Premium pricing switches and a test switch are included on selector.

CREDIT COMPUTER registers credit for record play when coins operate the coin switches. Credit is removed when a selection is made. Also contains price programming switches.

JUNCTION BOX distributes 120-volt power to phonograph components and provides 30-volt AC and 30-volt DC power for the selection system, incandescent lamps, relays, and solenoids.

RECORD CHANGER MECHANISM holds 100 records and plays 200 selections.

REAR ACCESS DOOR contains an amplifier volume control, a cancel pushbutton, a manual on-off toggle switch, and terminal strips for wallbox, remote volume control, external speaker connections.

PREAMPLIFIER AND AMPLIFIER amplifies phonograph cartridge output and drives the speaker system.

OUTPUT TRANSFORMER PACKAGE matches amplifier output to speaker system impedance.

SEARCH UNIT AND PINWHEEL ASSEMBLY is a component of selection system. Pushes out pins on a mechanical pinwheel memory that correspond to record selection.

SLUG REJECTOR accepts good coins and rejects slugs and bad coins. Tests coins for size, thickness, weight, metal content, and shape.

COIN SWITCHES establish credit in the credit computer. Operated by coins as they fall from slug rejector into cash bag.

FIGURE 1-1. MAJOR COMPONENTS

SECTION 1 - DESCRIPTION

GENERAL

The R-80 represents the continuing improvement in styling and sound reproduction expected of Rowe/AMI's forward looking, pace-setting phonographs. A 200 selection, high fidelity stereo phonograph, the R-80 features solid-state credit and pricing, 64 watts of honest speaker-driving power, greater sound coverage, and ease and safety in servicing.

Circuit breaker protection of electrical systems, and a fault ground system are features retained in the R-80. The time-tested record changer mechanism requires lubrication only once every five years and the entire phonograph is covered by the most liberal warranty in the music industry.

The phonograph contains a stereo sound system which starts with a 0.7 mil diamond stylus tracking at four grams pressure and ends with the biggest sound available. The 64-watt full-range, solid-state amplifier incorporates automatic volume control, automatic record quality control and automatic loudness contour. Location of middle and high frequency speakers gives the R-80 greater sound coverage. Bass power has been increased and the duct-tuned bass enclosure is larger than ever. The resulting increase in bass levels is immediately noticeable.

Each of the choices in styling offer brushed, epoxy-coated aluminum grilles, vinyl-clad steel lower sides, high-impact polystyrene and stainless steel trim, plus chrome plating over dual nickel for beauty and durability. All models provide subtly-lighted side panels, and door and side panel glass is tempered safety glass.

Included in an array of optional accessory equipment is a 120 watt solid state amplifier for those locations with heavy extension speaker requirements. This proven amplifier delivers an honest 120 watts of power (rms) to the speaker system.

ACCESSORY EQUIPMENT

Phonograph accessory equipment is listed in the following table. All accessory equipment and kits include mounting parts and installation instructions. These accessories are available from your Rowe/AMI Distributor. New accessories will be announced as they become available in service bulletins issued by Rowe International, Inc. These service bulletins are mailed to all Rowe Distributors. Blank space has been left on page 1-3 for writing in new accessories.

TABLE 1-1. ACCESSORY EQUIPMENT

PART NO.	DESCRIPTION	FUNCTION
601-07406	Optional 120-Watt (RMS) Stereo Amplifier and Output Transformer Package.	Used in locations with heavy extension speaker requirements. Plugs into phono harness. Delivers 120W (RMS) power. Includes matching output transformer package.
214-14375	Dollar Bill Acceptor Kit	Accepts valid one dollar bills in U.S. currency and establishes one dollar's worth of credit in the phonograph credit computer.
203-66819	Digital Print Out Money Meter Kit	Solid state device records total receipts on ticket inserted at each service call. The surest security device available. Kit includes extension cable for plug-in installation.
201-15303	Monitor Alarm Kit	Makes an incredibly loud noise if an attempt is made to pry open or smash in cash box door. Consists of a horn operated by a replaceable Freon aerosol can. Because the alarm is not electrically operated and is not accessible without a key, it cannot be disarmed.

PART NO.	DESCRIPTION	FUNCTION
201-66447	Phono Paging Kit	All plug-in unit, complete with microphone, preamplifier, and 50 foot microphone cable to allow use of phonograph sound system as paging system.
603-03400	WRC Wallethe Wallbox	Remote control unit for phonograph. Has self-contained credit and pricing and selection system. Takes nickels, dimes quarters, half-dollars.
601-03380	CGA Stepper	Permits phonograph operation with Wallethe wallboxes, Other models available for competitor wallboxes.
401-05627	Auxiliary Power Supply	Powers up to six Rowe/AMI Wallethe wallboxes. Low-voltage supply separate from that required for the phonograph.
401-05678	Secondary Power Supply	Powers each additional six or more Rowe/AMI Wallethe wallboxes. Other power supplies available for competitive equipment.
SPEC 5054	12-Conductor Cable	For connecting Wallethe to Phonograph.
601-02187	Extension Speaker (Model EX-201)	12-watt, compact "bookshelf" speaker system contains one 8-inch full range speaker.
601-02188	Extension Speaker (Model EX-301)	25-watt, two channel system includes 3-1/2 inch tweeter and 10-inch bass speaker.
601-02105	Extension Speaker (Model EX-401)	25-watt, high efficiency, two-channel system includes horn and cone-type speaker.
402-02190	Decorator Extension Speaker (Model EX-700)	Wall-type speaker with walnut cabinet. 70.7 volts, 5 watts. Available with volume control.

PART NO.	DESCRIPTION	FUNCTION
301-06322	Remote Volume and Cancel Control	Remote stereo volume control and cancel button.
SPEC 5064	Remote Volume and Cancel Control Cable	For connecting remote volume and cancel control to Phonograph.
302-06322	Remote Volume and Cancel Control with Cable	Remote stereo volume and cancel control with 50 feet of cable.
201-17666	4 Channel Amplifier	Provides 4 channel sound. Includes matching output Transformer Packages.
202-66681	Automix Kit	Enables the phonograph to play both 45 RPM and 33 RPM records.

TEST EQUIPMENT

Using the right tool for the job can save the serviceman a lot of time and money when a machine is out of order. Table 1-2 lists test equipment, available from your local Rowe distributor, to take the guess work out of troubleshooting.

TABLE 1-2. TEST EQUIPMENT

PART NO.	DESCRIPTION
TE-396	Mech Tester (Tests all functions of record changer mech. electric selector and credit unit. Also tests credit unit.)
401-65073	BA-2 Power Regulator Ext. Cable
402-65073	BA-2 Magnetic Amplifier Ext. Cable
403-65073	BA-2 Logic Board Ext. Cable (Permits troubleshooting boards on bench)
TE-475	Credit Computer Tester (Operates credit computer independently to test all functions)

COMPATIBILITY CHART

Table 1-3 shows the compatibility of various component systems and accessories with various model phonographs. Use this table as an aid in determining interchangeability of accessories, for field exchange and ordering purposes.

TABLE 1-3. COMPATIBILITY CHART

PRODUCT	EQUIPMENT	T1-2 STD	T1-2 Solid State Credit Com.	R-74	RI-1	RI-1G	CTI-1	CTI-1C	HAJ	HLJ	HLJ-1	R-80
64 Watt Amplifier	601-02179	OK	STD	STD	OK	OK	OK	STD	OK	OK	OK	STD
* 64 W Output Transformer, 5 Pos. SW	401-06322	OK	STD	1&3	OK	OK	OK	1&3	OK	OK	OK	1&3
* 64 W Output Transformer, 6 Pos. SW	403-06322	2	2	STD	2	2	2	STD	OK&3	OK&3	OK	STD
50 W Hybrid Amplifier W/Pre Amp	602-04358 STD	OK	OK	1&3	602-04572 STD	602-04572 STD	602-04358 STD	1&3				1&3
100 W Amp. with 100 W Out Put Trans.	602-04195	OK	OK	1&3	OK	OK	OK	1&3	STD	STD	OK&3	1&3
120 W Amp with 120 W Output Trans.	601-07406	2	2	OK	2	2	2	OK	OK&3	OK&3	STD	OK
Credit Computer No. 1	601-06666		STD	OK				OK				OK
Credit Computer No. 2	601-07593		OK	STD				STD				STD
MAF Money Meter		610-03301					610-03301		610-03301	610-03301		
MBA Digital Print-Out Money Meter Kit	201-66699 STD	201-66699 STD	205-66699 8				204-66699 9	205-66699 8		201-66699 4	205-66699 8	203-66619 10
MBB Digital Print-Out Money Meter Kit			201-66819 STD					201-66819 STD				
Autonix Kit		STD	STD	STD	201-66681			STD	STD	STD	STD	202-66681
WRA, WRC Wallbox	604-03400: 605-03400	STD	STD	STD	STD	STD		STD	STD	STD	STD	STD
BA-2 Bill Acceptor W/Chopper		207-14375 STD	6	7			212-14375 STD	6				7
BA-2C Bill Acceptor (W/Credit Pulse Board)			210-14375 STD	216-14375 STD				202-66808 STD				216-14375 STD
Bill Stacker	601-07660			STD								STD
Bill Box		STD	STD	402-06612 OK			STD	STD				402-06612 OK

* Dual channel possible. (Requires switch on T.A. cable for stereo records).

1. Will be mono. limited to 24W in jukebox speakers.
2. Bass only.
3. Need adaptor harness (Mate-N-Lok to Universal) if extension speakers use. (301-07532)
4. Need 201-15268 mounting bracket to use either kit or 601-02195 money meter.
5. Need adaptor harness (12 way to 15 way) (Mate-N-Lok). (301-65313)
6. Replace chopper with S.S. credit pulse board ass'y. (401-06521)
7. Adaptor Kit (Stacker). (201-66767)
8. Need 301-65311 adaptor harness to use 601-02195 money meter without kit.
9. Need 203-66715 adaptor harness to use 601-02195 money meter without kit.
10. Need 301-65314 adaptor harness to use 602-02195 money meter without kit.

BILL ACCEPTOR INTERCHANGEABILITY

Bill acceptors used in the MM-6, TI-1 and TI-2 models are adaptable to the R-80 (and R-74). In addition, the bill acceptor used in the R-74 and R-80 models can be adapted for use with MM-6, TI-1 and TI-2 models. Specific information for each conversion is listed in Table 1-4.

TABLE 1-4. BILL ACCEPTOR INTERCHANGEABILITY CHART

ADAPTATION		BILL ACCEPTOR CONTROL CENTER PART NO.	ADAPTATION INSTRUCTIONS
FROM	TO		
R-74 R-80	TI-2 WITH CREDIT COMPUTER	607-03769	SUBSTITUTE 401-06521 CREDIT PULSE BOARD ASSEMBLY FOR 402-06521 OR CUT THE RUNNER AT PIN 5. SOME EARLY 401-06521 CIRCUIT BOARDS WERE CONVERTED TO 402-06521 BY SOLDERING A JUMPER WIRE TO PIN 5. IF YOU HAVE ONE OF THESE BOARDS, SIMPLY REMOVE THIS JUMPER
R-74 R-80	TI-2 WITH ELECTRO- MECHANICAL CREDIT UNIT	607-03769	SUBSTITUTE 401-05730 PULSE CHOPPER FOR 402-06521 PULSE BOARD ASSEMBLY.
R-74	TI-1 OR MM-6 WITH ELECTRO- MECHANICAL CREDIT UNIT	607-03769	SUBSTITUTE 401-05730 PULSE CHOPPER FOR 402-06521 PULSE BOARD ASSEMBLY. REMOVE AND TAPE WHITE/SLATE WIRE FROM CENTER PIN AT 7-PIN COMBO PLUG.
TI-2 WITH CREDIT COMPUTER	R-74 R-80	606-03769	* SUBSTITUTE 402-06521 CREDIT PULSE BOARD FOR 401-06521 OR ADD A JUMPER WIRE BETWEEN PINS 5 AND 12.
TI-2, TI-1 OR MM-6 ELECTRO- MECHAN- ICAL CREDIT COMPUTER	R-74 R-80	604-03769	* SUBSTITUTE 402-06521 CREDIT PULSE BOARD FOR 401-05730 PULSE CHOPPER
R-74	R-80	607-03769	NEED 602-07679 HARNESS ASSEMBLY WITH 35 IN. LONG PIGTAIL TO JUNCTION BOX.
NONE	R80S		NO INTERCHANGEABILITY SPECIAL MODEL BA-4 BILL ACCEPTOR MUST BE USED. SEE MODEL BA-4 SERVICE MANUAL

* WHEN CONTROL CENTERS 604-03769 OR 606-03769 ARE USED, THE BILL ACCEPTOR WILL NOT BE LOCKED OUT DURING THE STACK CYCLE. TO ADD THIS FEATURE, REMOVE AND TAPE THE YELLOW/GREEN WIRE FROM THE CENTER POSITION OF THE 7-PIN COMBO PLUG. CONNECT A WHITE/SLATE WIRE TO THE CENTER POSITION, RUN THROUGH THE HARNESS TO THE CONTROL CENTER AND CONNECT TO THE EXISTING WHITE/SLATE WIRE ON PIN 12 OF THE LOGIC BOARD EDGE CONNECTOR.

SECTION 2 - INSTALLATION

GENERAL

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

ACCESSORIES BAG ASSEMBLY

Included is a plastic bag containing slip-on terminals connecting accessories, a quality control card, an assortment of spare fuses and spare contacts for connectors. It is recommended that you leave this Service Manual and the accessory bag assembly in the 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/AMI 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 AND SHIPPING CARTON

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 top door.
2. Release latches and open front door.
3. Remove tape from title panel. Release title panel by pressing down on spring catch as shown in fig. 2-1. Swing panel up as shown.

REMOVE RECORD CHANGER MECHANISM TIE-DOWN BOLTS

1. Remove shipping bolt from rear of cabinet as shown in fig. 2-2.
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 and toggle shifter plunger.
4. Remove turntable hold-down clip.
5. Remove turntable by pulling turntable straight up. Remove rubber band and shipping block from idler wheel.

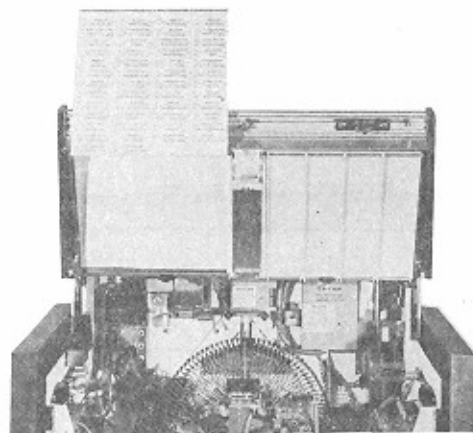
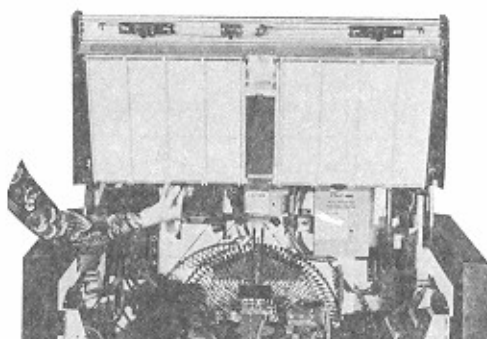
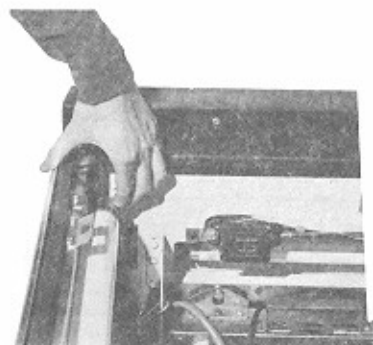
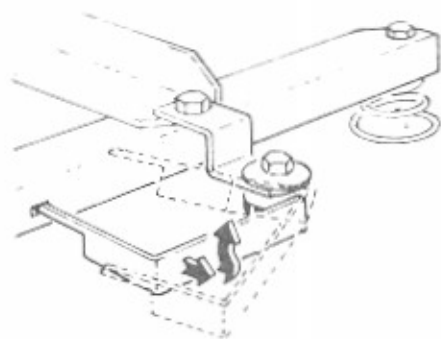


FIGURE 2-1. OPENING PHONOGRAPH CABINET

6. Replace turntable, making sure that idler wheel rides on inside of turntable rim. This is accomplished by manually rotating turntable clockwise.
7. Remove stylus cover from cartridge and stylus.

8. Save shipping hardware for future use.
9. Remove adhesive tape from search unit and other parts.
10. Check that all plugs are firmly seated in their respective receptacles



PHONOGRAPH REAR

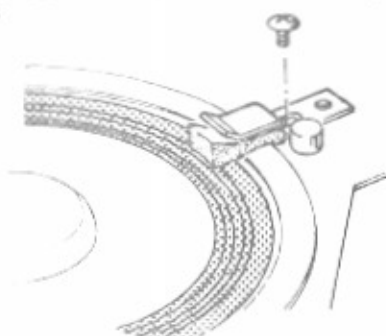


FIGURE 2-2. REMOVING MECHANISM TIE-DOWN BOLTS

INSTALL LICENSE CARD

For locations where a license must be displayed, a license card area has been provided on the top door between the title racks. To install license card, follow this procedure:

1. Loosen two screws holding bottom retainer as shown in figure 2-3.
2. Loosen screw holding top retainer and turn retainer to free license card backing.
3. Remove license card backing and blank license card.
4. Insert license card, replace backing and tighten screws in place.

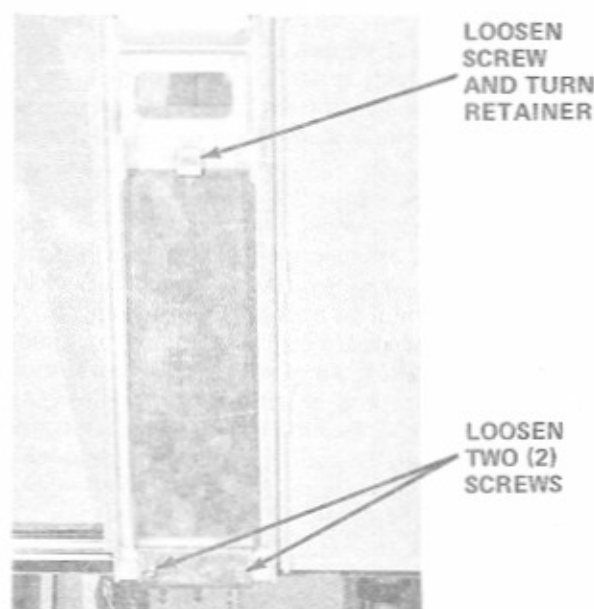


FIGURE 2-3. INSTALLATION LICENCE CARD

TABLE 2-1. USE OF AMPLIFIER CCNTROLS 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.						

AMPLIFIER SET-UP

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 on page 2-2. Note that more bass boost is required at low volume levels. The amplifier incorporates circuitry that provides extra bass compensation at low volume levels.

STEREO BALANCE

The stereo balance control is provided to equalize left and right channel amplifier output. This control affects only the side speakers; the low-frequency speakers are not affected. 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 side 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.

70-VOLT CONSTANT VOLTAGE EXTENSION SPEAKER OPERATION

Where sound coverage is required in rooms or areas not covered by the phonograph, extension speakers are required. Rowe recommends using the amplifier 70-volt output with 70-volt extension speakers to provide trouble-free operation. Each Rowe/AMI 70-volt speaker has a matching transformer. The matching transformer has power taps so that power consumed by each speaker in the system can be adjusted. To obtain the total power required for the entire system, simply add the wattage settings of each extension speaker to the wattage setting of the phonograph speaker system. The total wattage must not exceed the rated wattage of the amplifier; otherwise the amplifier will be overloaded. Overloading the amplifier will result in distorted sound and reduced loudness. However, it is always advantageous to approximately match the total speaker power to the power rating of the amplifier because in low volume installations, the amplifier can be operated with a reduced volume control setting. This results in greater bass boost and a more pleasing tonal balance.

CAUTION

PHONO JACKS, ADJACENT TO VOLUME CONTROL PLUG, ARE FOR BENCH TEST PURPOSES ONLY.

NON-70-VOLT EXTENSION SPEAKER OPERATION

Though less desirable than 70-volt operation, speakers may be connected to impedance taps on the output transformer package. Speaker power ratings and impedance must be considered so that each speaker will get the proper proportion of power. Three requirements must be met:

1. The speakers must be wired so that the power consumed by the phonograph and extension speakers does not exceed the amplifier power rating.
2. Each speaker must get the right amount of audio power to have equal loudness to the other speakers in the system or have higher or lower loudness as required.
3. All speakers must be connected with the proper polarity.

REMOTE VOLUME AND CANCEL CONTROL

Connect the 301-06322 remote volume and cancel control to the Phonograph as shown below.

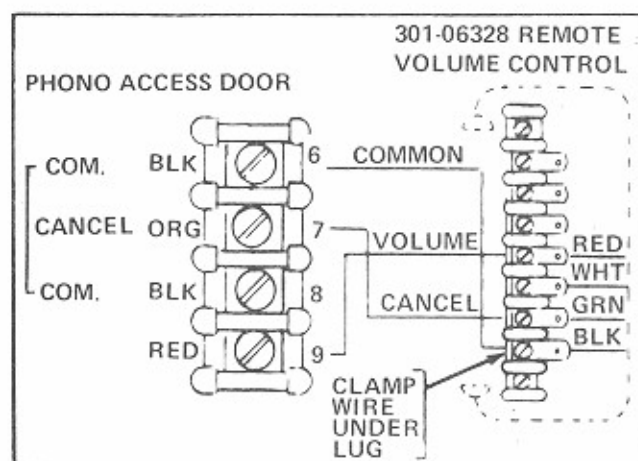


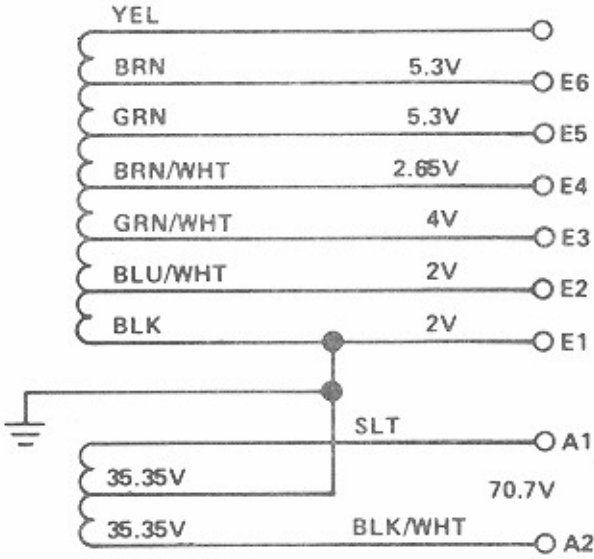
FIGURE 2-4. REMOTE VOLUME AND CANCEL CONTROL CONNECTIONS

FULL COVERAGE SOUND SYSTEM CONNECTION CHART

See figure 2-5 on page 2-6 for Stereo Sound system connection chart. Observe the following notes when making connections:

- Connections shown for 70-volt extension speakers are for Models EX-201, EX-301, and EX-401.
- Connections shown for 8-ohm extension speakers are for 8-watt level. See the table below for information on other power levels and for use of speakers having other impedances.

- Polarity of connections between amplifier, wallbox speakers, and extension speakers must be observed for correct phasing of extension speakers, wallbox speakers, and Phonograph speakers.
- Amplifier watts per channel for speakers connected across both channels (for monaural extension of sound) is one half watts per speaker power.
- Allow 1.4 watt per channel for each Wallette wallbox connected (normal connection).
- Connect remote volume control to carrier strip on rear access door.

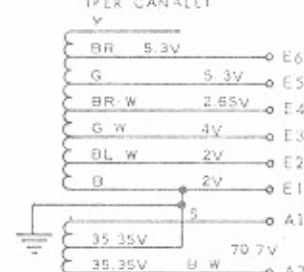
CHART NO.1			CHART NO. 2		
SPEAKERS CONNECTED TO EITHER LEFT CHANNEL OR RIGHT CHANNEL - USED IN PAIRS FOR STEREO EXTENSION OF SOUND			SPEAKERS CONNECTED ACROSS BOTH CHANNELS - FOR MONAURAL EXTENSION OF SOUND		
	TERMINALS	WATTS PER SPEAKER		TERMINALS	WATTS PER SPEAKER
8 OHM SPEAKERS	E1 - E2	0.5	8 OHM SPEAKERS	E2 - E2	2
	E1 - E3	2		E3 - E3	8
	E2 - E4	4.5		E4 - E4	32
	E1 - E4	8	16 OHM SPEAKERS	E2 - E2	1
	E1 - E5	14		E3 - E3	4
	E2 - E6	24		E4 - E4	16
16 OHM SPEAKERS	E1 - E3	1	CONSTANT VOLTAGE SPEAKERS	E5 - E5	28
	E2 - E4	2.25		A1 - A2	DETERMINED BY POWER SETTING AT EXTENSION SPEAKER
	E1 - E4	4		OR	
	E1 - E5	7	A2 - A1		
	E2 - E6	12	AMPLIFIER FULL POWER OUTPUT VOLTAGES (PER CHANNEL)		
	E1 - E6	16			
45 OHM WALL BOX SPEAKERS	E1 - E3	0.35			
	E1 - E4	1.4 (NORMAL)			
	E1 - E5	5			
CONSTANT VOLTAGE SPEAKERS	A1 - A2	DETERMINED BY POWER SETTING AT EXTENSION SPEAKER			
NOTE: WATTS PER CHANNEL FOR SPEAKERS CONNECTED ACROSS BOTH CHANNELS (FOR MONAURAL EXTENSION OF SOUND) IS ONE HALF OF "WATTS PER SPEAKER" INDICATED IN CHART 2.					

CONNESSIONE DI ALTOPARLANTI SUPPLEMENTARI

TAVOLA NO. 1
PER LA CONNESSIONE STEREOFONICA
UN ALTOPARLANTE E CONNESSO AL
CANALE DI SINISTRA L'ALTRO A
QUELLO DI DESTRA

TERMINALI	WATTS PER ALTOPARLANTE	TERMINALI	WATTS PER ALTOPARLANTE
E1 - E2	0.5	ALTOPAR- LANTI DI 8 OHM	E2 - E2 2 E3 - E3 8 E4 - E4 32
E1 - E3	2		
E2 - E4	4.5		
E1 - E4	8		
E1 - E5	14		
E2 - E6	24		
		ALTOPAR- LANTI DI 16 OHM	E2 - E2 1 E3 - E3 4 E4 - E4 16 E5 - E5 28
E1 - E3	1		
E2 - E4	2.25		
E1 - E4	4		
E1 - E5	7		
E2 - E6	12		
E1 - E6	16		
		ALTOPAR- LANTI A VOLTAGGIO COSTANTE	A1 - A2 REGOLATO DAL SISTEMA ELETTRICO DELL'ALTO- PARLANTE SUPPLEMENTARE A2 - A1
E1 - E3	0.35		
E1 - E4	1.4 (Normal)		
E1 - E5	5		
A1 - A2	REGOLATO DAL SISTEMA ELETTRICO DELL'ALTO- PARLANTE SUPPLEMENTARE		

NOTARE:
L'Energia elettrica per canale degli
altoparlanti connessi attraverso i
canali (per la connessione
monofonica) e' la meta' di quella
indicata nella tavola No.2

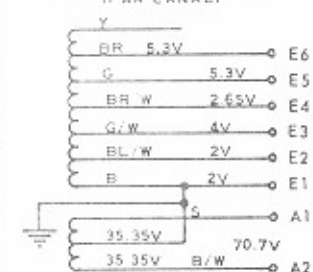


CONNECTION DES HAUTS - PARLEURS SUPPLEMENTAIRES

TAVOLA NO. 2
PER LA CONNESSIONE MONOFONICA
GLI ALTOPARLANTI SONO CONNESSI
ATTRAVERSO I DUE CANALI

TERMINALI	WATTS PER ALTOPARLANTE	TERMINALI	WATTS PER ALTOPARLANTE
E1 - E2	0.5	HAUT-PAR- LEURS DE 8 OHMS	E2 - E2 2 E3 - E3 8 E4 - E4 32
E1 - E3	2		
E2 - E4	4.5		
E1 - E4	8		
E1 - E5	14		
E2 - E6	24		
		HAUT-PAR- LEURS DE 16 OHMS	E2 - E2 1 E3 - E3 4 E4 - E4 16 E5 - E5 28
E1 - E3	1		
E2 - E4	2.25		
E1 - E4	4		
E1 - E5	7		
E2 - E6	12		
E1 - E6	16		
		HAUT-PAR- LEURS A TENSION COSTANTE	A1 - A2 DÉTERMINÉ PAR LE RÉGLAGE DE PUISSANCE DES HAUT-PARLEURS SUPPLÉMENTAIRES A2 - A1
E1 - E3	0.35		
E1 - E4	1.4 (Normal)		
E1 - E5	5		
A1 - A2	DÉTERMINÉ PAR LE RÉGLAGE DE PUISSANCE DES HAUT-PARLEURS SUPPLÉMENTAIRES		

NOTA: La puissance par canal pour
haut-parleurs connectés sur les
deux canaux (connection mono-
phonique) est la moitié de "watt"
par haut-parleurs" indique au
tableau No. 2.

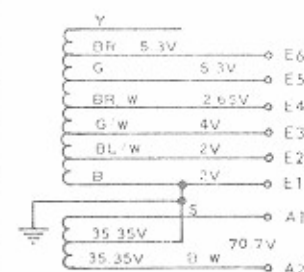


ANSCHLUSS DER ZUSATZLAUTSPRECHER

TABELLE 1
STEREO ANSCHLUSS
DIE LAUTSPRECHER WERDEN PAARWEISE AN
DEN RECHTEN BZW. LINKEN KANAL
ANGELOSSEN.

KLEMMEN	WATT PRO LAUTSPRECHER	KLEMMEN	WATT PRO LAUTSPRECHER
E1 - E2	0.5	8 OHM	E2 - E2 2 E3 - E3 8 E4 - E4 32
E1 - E3	2		
E2 - E4	4.5		
E1 - E4	8		
E1 - E5	14		
E2 - E6	24		
		16 OHM	E2 - E2 1 E3 - E3 4 E4 - E4 16 E5 - E5 28
E1 - E3	1		
E2 - E4	2.25		
E1 - E4	4		
E1 - E5	7		
E2 - E6	12		
E1 - E6	16		
		70 VOLT	A1 - A2 oder BESTIMMT DURCH LAUTSTÄRKESTEL- LUNG DES ZUSATZ- LAUTSPRECHERS A2 - A1
E1 - E3	0.35		
E1 - E4	1.4 (Normal)		
E1 - E5	5		
A1 - A2	BESTIMMT DURCH LAUTSTÄRKESTEL- LUNG DES ZUSATZ- LAUTSPRECHERS		

N.B. Die Leistung pro Kanal für
Lautsprecher die über beide Kanäle
geschaltet werden (Monaural
Anschluss) beträgt lt. Tabelle 2
die Hälfte.

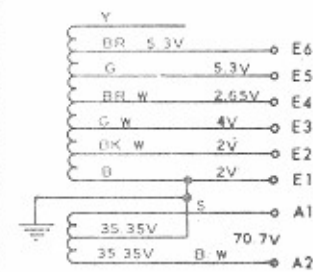


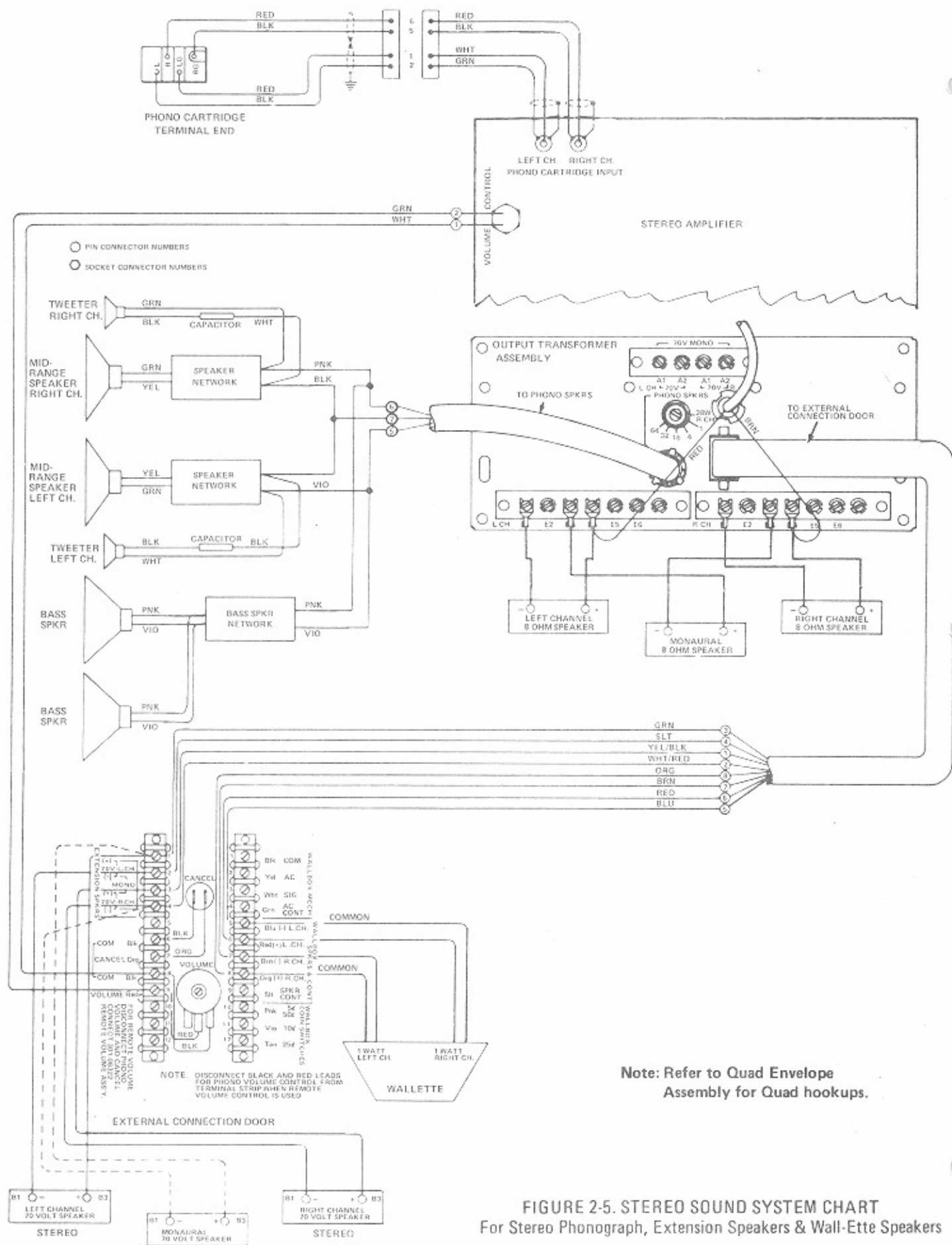
NIVELES DE PODER - PARLANTES ADICIONALES

GRAFICA NO. 1
ALTOPARLANTES CONECTADOS A LOS CANALES
DERECHO O IZQUIERDO - USADOS EN PARES
PARA LA EXTENSION DEL SONIDO ESTEREO
MONICO

TERMINALES	WATTS POR PARLANTES	TERMINALES	WATTS POR PARLANTES
E1 - E2	0.5	PARLANTES DE 8 OHM	E2 - E2 2 E3 - E3 8 E4 - E4 32
E1 - E3	2		
E2 - E4	4.5		
E1 - E4	8		
E1 - E5	14		
E2 - E6	24		
		PARLANTES DE 16 OHM	E2 - E2 1 E3 - E3 4 E4 - E4 16 E5 - E5 28
E1 - E3	1		
E2 - E4	2.25		
E1 - E4	4		
E1 - E5	7		
E2 - E6	12		
E1 - E6	16		
		PARLANTES DE VOLTAGE CONSTANTE	A1 - A2 DETERMINANDO POR EL NIVEL DE FUERZA DEL ALTOPARLANTE DE EXTENSION A2 - A1
E1 - E3	0.35		
E1 - E4	1.4 (Normal)		
E1 - E5	5		
A1 - A2	DETERMINANDO POR EL NIVEL DE FUERZA DEL ALTOPARLANTE DE EXTENSION		

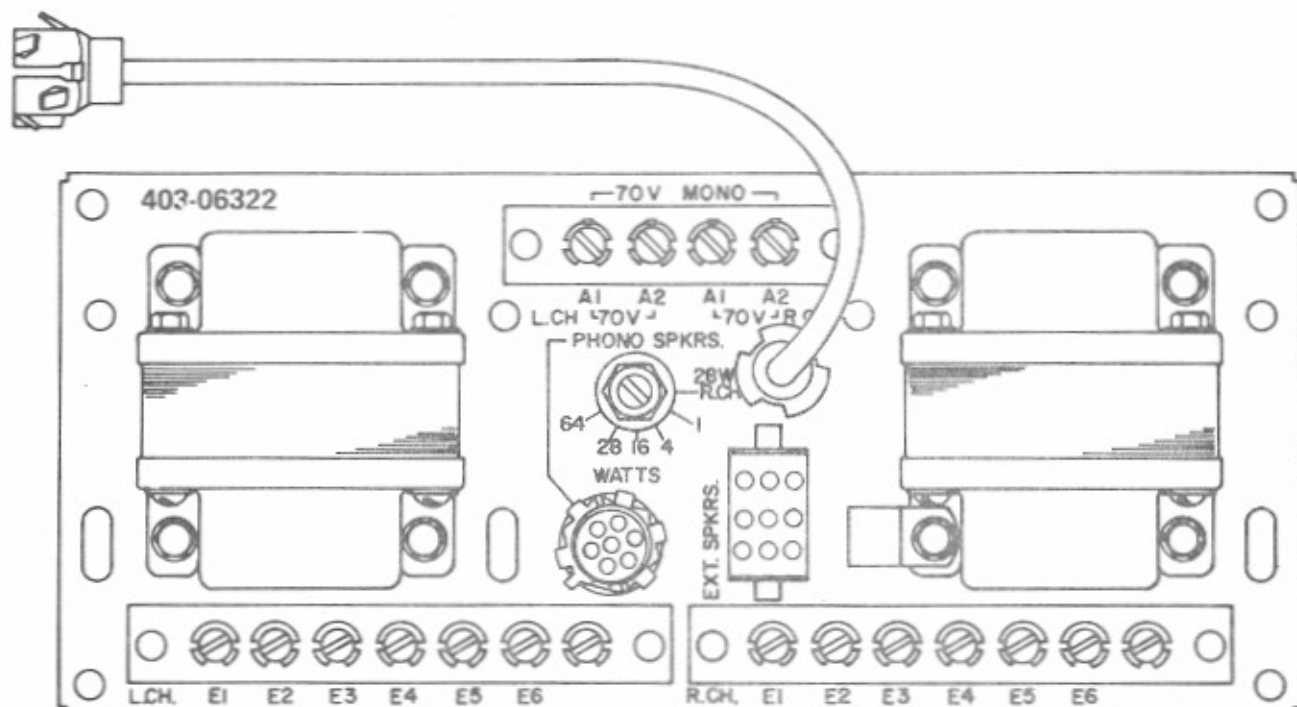
NOTA:
Los vatios por canal para parlantes
conectados a través de ambos
canales (para la extensión de
sonido monoaural) es la mitad de los
indicados en la grafica No. 2 en la
columna "Vatios por parlantes".





Note: Refer to Quad Envelope
Assembly for Quad hookups.

FIGURE 2-5. STEREO SOUND SYSTEM CHART
For Stereo Phonograph, Extension Speakers & Wall-Ette Speakers



PHONO SPEAKER POWER SWITCH	POWER PER CHANNEL FOR EXT. SPEAKERS	
	64 Watt Amplifier	120 Watt Amplifier
64	0	28
28	18	46
16	24	52
4	30	58
1	32	60
CAUTION: Total power rating of load must not exceed 32 watts per channel for the 64 watt ampli- fier and 60 watts per channel for the 120 watt am- plifier.		

FIGURE 2-6. POWER LEVEL SETTINGS

POWER LEVEL SETTINGS

A power level setting switch is provided on the output transformer package to adjust output power delivered to phonograph and external extension speakers. See figure 2-6 for switch settings and associated power levels.

SETTING POWER LEVEL SWITCH

1. Set Power Level Switch to lowest level (1).
2. Set volume control at maximum.
3. With music playing, increase power level switch setting one step at a time until sound is louder than desired.
4. Control sound to desired level with volume control.

This procedure will result in "normal" frequency response. Some locations may desire more bass than is obtained with this procedure and a "max" bass boost setting. More bass will result by using a higher power level switch setting and a lower volume control setting to get the desired sound level.

Revised Sept. 1975

SPECIAL CONSIDERATIONS FOR WALLETTE INSTALLATIONS

The phonograph bass speaker can be disconnected from the power level switch and given a selected bass level regardless of switch position. This feature is especially valuable when the phonograph speakers are operated at low level to operate Wallette speakers. However, increased bass from the phonograph is desirable to balance the total sound output of the Wallettes.

To perform this change, disconnect the red and brown wires from the output terminal strips on the output transformer assembly. Reconnect these wires according to table 2-3 below to give a bass speaker wattage approximately equal to the total one-channel wattage of the Wallette speakers.

TABLE 2-3. ALTERNATE POWER LEVELS FOR WALLETTE SPEAKERS

Connections of Red Brown Leads at Terminal Strip	Watts Per Speaker
Terminal E3	0.35
Terminal E4(normal)	1.4
Terminal E5	5

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.

PRICING

The credit and pricing system of the phonograph can be adapted to an almost unlimited variety of pricing combinations. Pricing for each phonograph as set at the factory is indicated by the price card installed in the price window. The following information is provided to facilitate price setting.

SETTING PRICES

Setting prices is accomplished by simply setting 2 banks of 9 switches each in either "ON" or "OFF" positions. A bonus relay is not required for any pricing. Although not compatible with the Model MAF Money Meter, the Credit Computer can be used with Models MBA & MBB Digital Print-Out Money Meters.

The Credit Computer will register nickels and dimes. The nickel diverter in the coin mechanism should be in blocked position as shown.

NICKEL DIVERTER POSITION

COIN ACCEPTORS



FREE



BLOCKED

NATIONAL



FREE



BLOCKED

Using the following charts for reference, set prices in the following manner:

1. Select desired pricing program from chart. (If desired pricing is not shown, refer to "Making Your Own Price Combinations" on page 2-11.
2. Set switches S1 and S2 as shown under desired program
3. Install correct price card in phonograph, using the universal price card kit included in the phonograph.
4. Insert coins and make selections to check proper operation.

TABLE 2-4. PRICE OF PLAY PROGRAMMING

<p>STANDARD SELECTIONS PRICE OF PLAY</p> <p>10¢ 25¢ 50¢ 75¢ \$1.00 1 3 7 11 15 NUMBER OF PLAYS</p> <p>ALBUM SELECTIONS PRICE OF PLAY</p> <p>25¢ 50¢ 75¢ \$1.00 1 2* 3* 5 NUMBER OF PLAYS *PLUS STANDARD PLAY</p>	<p>STANDARD SELECTIONS PRICE OF PLAY</p> <p>10¢ 25¢ 50¢ 75¢ \$1.00 1 3 7 11 15 NUMBER OF PLAYS</p> <p>ALBUM SELECTIONS PRICE OF PLAY</p> <p>NO ALBUMS NUMBER OF PLAYS *PLUS STANDARD PLAY</p>	<p>STANDARD SELECTIONS PRICE OF PLAY</p> <p>15¢ 25¢ 50¢ 75¢ \$1.00 1 2 4 7 12 NUMBER OF PLAYS</p> <p>ALBUM SELECTIONS PRICE OF PLAY</p> <p>25¢ 50¢ 75¢ \$1.00 1 2 3* 6 NUMBER OF PLAYS *PLUS STANDARD PLAY</p>
--	---	--

INDICATES ON



INDICATES OFF

STANDARD SELECTIONS
PRICE OF PLAY
15¢ 25¢ 50¢ 75¢ \$1.00
1 2 5 8 12
NUMBER OF PLAYS

ALBUM SELECTIONS
PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
1 2* 4 6
NUMBER OF PLAYS
*PLUS STANDARD PLAY

STANDARD SELECTIONS
PRICE OF PLAY
15¢ 25¢ 50¢ 75¢ \$1.00
1 2 5 8 13
NUMBER OF PLAYS

ALBUM SELECTIONS
PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
1 2* 4 6*
NUMBER OF PLAYS
*PLUS STANDARD PLAY

STANDARD SELECTIONS
PRICE OF PLAY
15¢ 25¢ 50¢ 75¢ \$1.00
1 2 5 8 14
NUMBER OF PLAYS

ALBUM SELECTIONS
PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
1 2* 4 7
NUMBER OF PLAYS
*PLUS STANDARD PLAY

STANDARD SELECTIONS
PRICE OF PLAY
15¢ 25¢ 50¢ 75¢ \$1.00
1 2 5 9 14
NUMBER OF PLAYS

ALBUM SELECTIONS
PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
1 2* 4* 7
NUMBER OF PLAYS
*PLUS STANDARD PLAY

STANDARD SELECTIONS
PRICE OF PLAY
20¢ 50¢ 75¢ \$1.00
1 3 5 8
NUMBER OF PLAYS

ALBUM SELECTIONS
PRICE OF PLAY
50¢ 75¢ \$1.00
1* 2* 4
NUMBER OF PLAYS
*PLUS STANDARD PLAY

STANDARD SELECTIONS
PRICE OF PLAY
20¢ 50¢ 75¢ \$1.00
1 3 5 9
NUMBER OF PLAYS

ALBUM SELECTIONS
PRICE OF PLAY
50¢ 75¢ \$1.00
1* 2* 4*
NUMBER OF PLAYS
*PLUS STANDARD PLAY

STANDARD SELECTIONS
PRICE OF PLAY
20¢ 50¢ 75¢ \$1.00
1 3 6 10
NUMBER OF PLAYS

ALBUM SELECTIONS
PRICE OF PLAY
50¢ 75¢ \$1.00
1* 3 5
NUMBER OF PLAYS
*PLUS STANDARD PLAY

STANDARD SELECTIONS
PRICE OF PLAY
20¢ 50¢ 75¢ \$1.00
1 3 6 11
NUMBER OF PLAYS

ALBUM SELECTIONS
PRICE OF PLAY
50¢ 75¢ \$1.00
1* 3 5*
NUMBER OF PLAYS
*PLUS STANDARD PLAY

STANDARD SELECTIONS
PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
1 3 4 7
NUMBER OF PLAYS

ALBUM SELECTIONS
PRICE OF PLAY
50¢ 75¢ \$1.00
1* 2 3*
NUMBER OF PLAYS
*PLUS STANDARD PLAY

INDICATES ON



INDICATES OFF

**STANDARD
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
2 4 7 11
NUMBER OF PLAYS

**ALBUM
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
1 2 3* 5*
NUMBER OF PLAYS
*PLUS STANDARD PLAY



**STANDARD
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
2 5 8 12
NUMBER OF PLAYS

**ALBUM
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
1 2* 4 6
NUMBER OF PLAYS
*PLUS STANDARD PLAY



**STANDARD
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
2 5 8 14
NUMBER OF PLAYS

**ALBUM
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
1 2* 4 7
NUMBER OF PLAYS
*PLUS STANDARD PLAY



**STANDARD
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
2 5 9 14
NUMBER OF PLAYS

**ALBUM
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
1 2* 4* 7
NUMBER OF PLAYS
*PLUS STANDARD PLAY



**STANDARD
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
2 5 9 15
NUMBER OF PLAYS

**ALBUM
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
1 2* 4* 7*
NUMBER OF PLAYS
*PLUS STANDARD PLAY



**STANDARD
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
2 5 7 10
NUMBER OF PLAYS

**ALBUM
SELECTIONS**

NUMBER OF PLAYS
*PLUS STANDARD PLAY



**STANDARD
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
2 5 8 11
NUMBER OF PLAYS

**ALBUM
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ \$1.00
1 2* 5*
NUMBER OF PLAYS
*PLUS STANDARD PLAY



**STANDARD
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
3 7 11 15
NUMBER OF PLAYS

**ALBUM
SELECTIONS**

PRICE OF PLAY
25¢ 50¢ 75¢ \$1.00
1 2* 3* 5
NUMBER OF PLAYS
*PLUS STANDARD PLAY



**STANDARD
SELECTIONS**

PRICE OF PLAY
NUMBER OF PLAYS

**ALBUM
SELECTIONS**

PRICE OF PLAY
NUMBER OF PLAYS
*PLUS STANDARD PLAY



INDICATES ON



INDICATES OFF

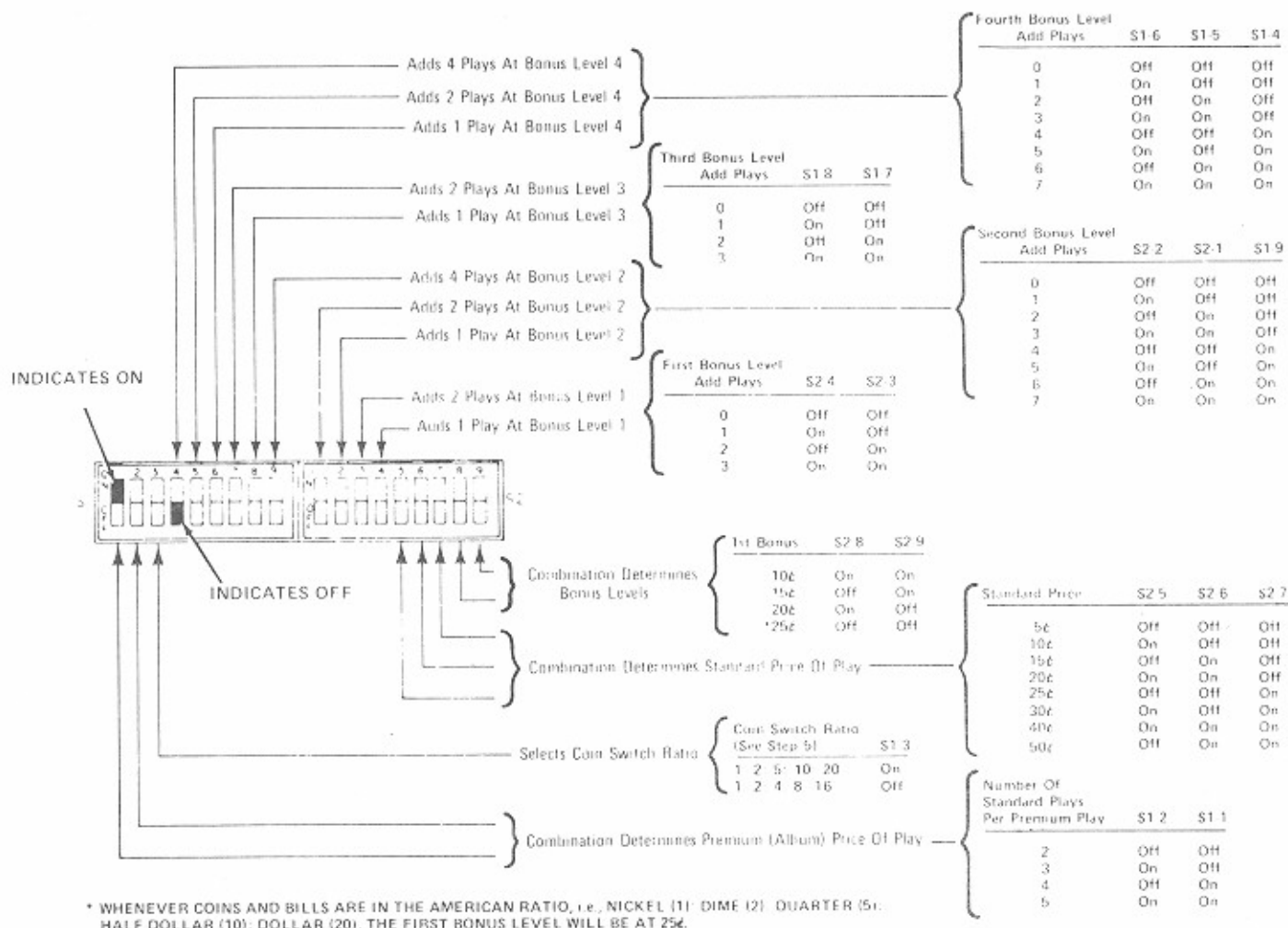


FIGURE 2-7. CREDIT COMPUTER PRICING SWITCHES

MAKING YOUR OWN PRICE COMBINATIONS

Pricing combinations other than those shown on the pricing charts are possible with the built-in flexibility of the Rowe Credit Computer. By determining five basic factors, price setting becomes a simple, logical procedure. The five factors are:

1. Minimum price of standard play desired.
2. Level at which first bonus is to be added.
3. Number of plays to be added at each bonus level.
4. Price of premium play (albums) in terms of multiples of standard play prices.
5. Ratio of acceptable coin values.

Figure 2-7 shows identification by function of each switch, along with proper settings for desired pricing conditions.

Using figure 2-7, set pricing switches as follows:

1. Set switches S2-5, S2-6 and S2-7 to desired price of standard play.
2. It is only necessary to set the level of the first bonus level. The second, third and fourth bonus levels are equal to two, three and four times the first bonus level, respectively. Set switches S2-8 and S2-9 to desired first bonus level.

NOTE

WHENEVER COINS AND BILLS ARE IN AMERICAN RATIO (SEE STEP 5), THE FIRST BONUS LEVEL WILL BE AT 25¢.

3. Set switches S1-4 to S2-4 for the number of plays to be added at each bonus level.
4. Set switches S1-1 and S1-2 to desired price of premium play. This is set as a multiple of standard play price.
5. American currency and most foreign currency occurs in the ratio 1:2:5:10:20 (i.e., nickel, dime, quarter, half-dollar, dollar). When the currency used occurs in this ratio, switch S1-3 should be set to ON position. Often foreign currency occurs in the ratio 1:2:4:8:16. When currency occurs in this ratio, set switch S1-3 to OFF position.

For additional information, see Principles of Operation in Section 4.

PREMIUM PRICING

To set selection groups 7 to 10 for premium (album) price, open the top access door to gain access to the premium pricing slide switches. Each switch represents one number selection group. Set switches for premium or standard price as desired. The first switch, S1, is a test switch used to bypass the credit computer, enabling phonograph operation for test purposes. It may also be used as a "free play" switch.

INSTALLING RECORDS AND TITLE STRIPS

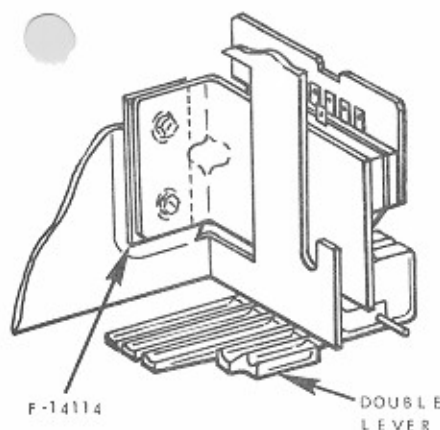
The phonograph will play 45 RPM records. With the addition of Automix Kit, both 45 RPM and 33 RPM records can be played interchangeably. (Order Kit No. 202-66681.)

Load records and install title strips as directed in Section 3 - Routine Service.

A FINAL CHECK

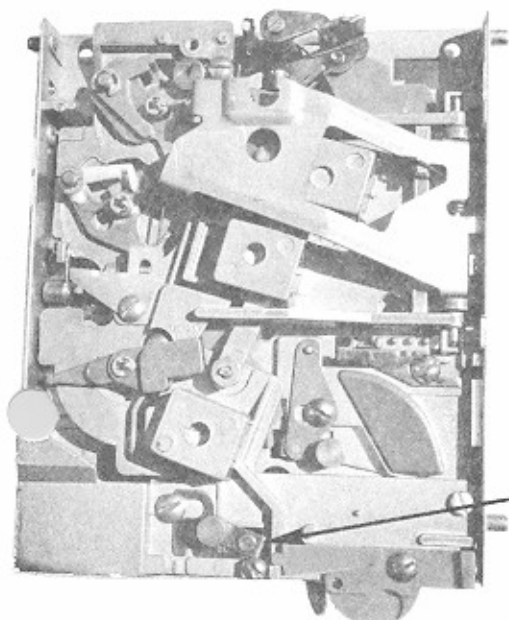
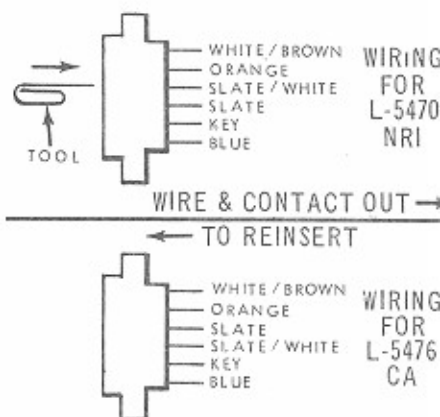
To see that the installation has been properly performed, deposit coins and make selections. Check that the record changer cycles smoothly and that sound is not distorted.

SUPPLEMENT TO: **PRICE OF PLAY PROGRAMMING PROCEDURE**



CA SLUG REJECTOR CAN BE INTERCHANGED WITH NRI SLUG REJECTOR WHEN COIN SWITCH HAS DOUBLE WIDTH NICKEL LEVER. F-14114 SPACER MUST BE ADDED FOR ALIGNMENT.

NOTE: COIN SWITCH WIRING IN EDGE CONNECTOR MUST BE CHANGED IF REJECTORS ARE CHANGED. TO INTERCHANGE SLATE & SLATE/WHITE WIRES, USE TIP OF PAPER CLIP AS TOOL. INSERT TOOL ALONG SIDE OF CONTACT TO RELEASE HOLDING TAB. WIRE & CONTACT CAN BE PULLED OUT. TAB MAY NEED REFORMING BEFORE REINSERTION INTO EDGE CONNECTOR.

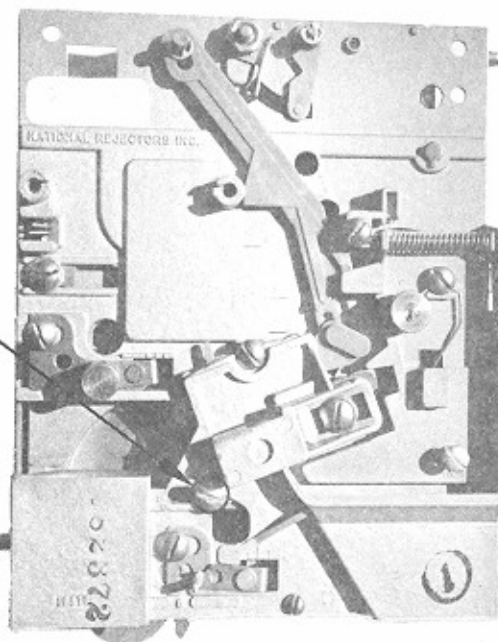


FRONT VIEW

NATIONAL

Move this screw to right to reject dimes (or just far enough to left to accept dimes).

Move this bracket to right to reject nickels (or just far enough to left to accept nickels).

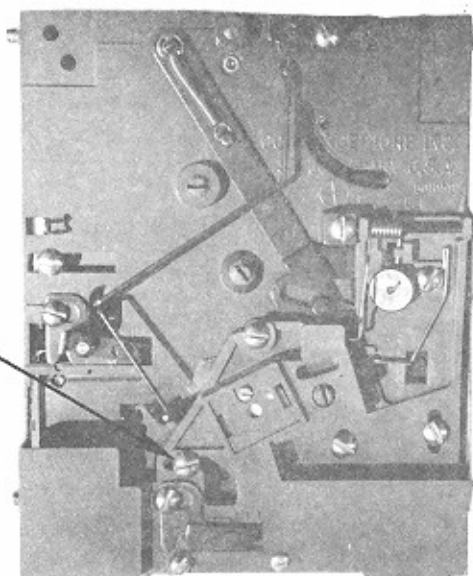
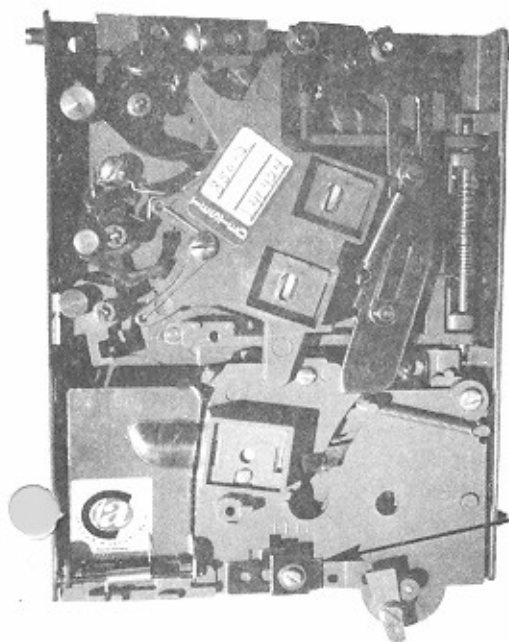


COIN

ACCEPTORS

Move this screw to right to reject dimes (or just far enough to left to accept dimes).

Move this bracket to right to reject nickels (or just far enough to left to accept nickels).



SECTION 3 - ROUTINE SERVICE

GENERAL

This section contains instructions to enable to 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. 202-66681.)

Load records as follows:

1. Unlock and open top door.
2. Turn Power Switch OFF (Located on Control Console).
3. Use scan switch to position magazine slot to the left or right of the transfer arm.
4. Install record in magazine as shown.
5. Turn Power Switch ON before attempting to make selection.

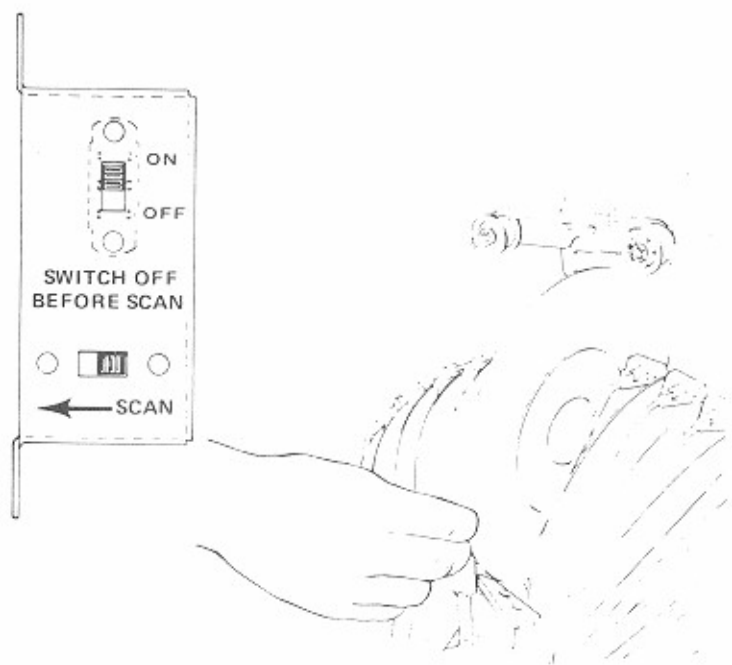


FIGURE 3-1 CHANGING RECORDS

CHANGING TITLE STRIPS

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

1. Open top door and swing up title panel as shown on page 2-1, figure 2-1.
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.



FIGURE 3-2. CHANGING TITLE STRIPS

REMOVING CASH BAG

Remove the cash bag from the bottom right hand side of the cabinet in the following manner:

1. Unlock cash bag door and pull door away from cabinet.
2. Slide cash bag straight out on its runners.

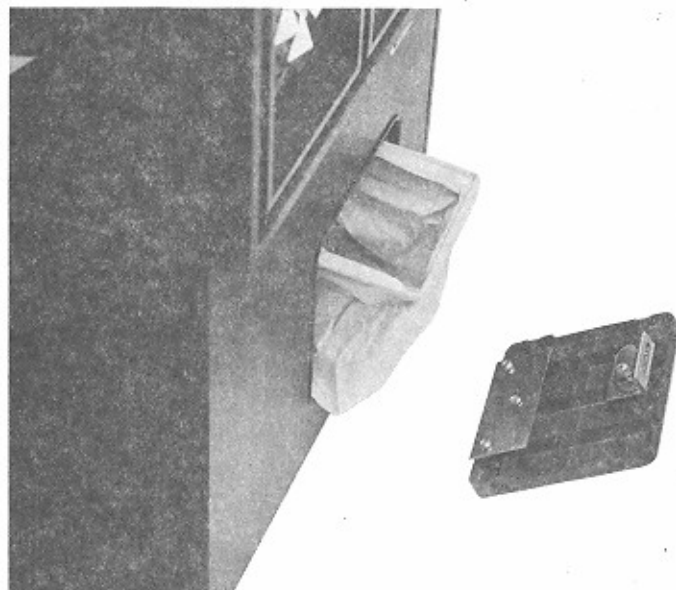


FIGURE 3-3 REMOVING CASH BAG

READING AND RESETTING POPULARITY METER

The popularity meter keeps a tally on the number of times each record is played. Reading the popularity meter is the best way to tell which records are played most often or which records should be changed.

Read and reset the popularity meter as follows:

1. Determine which records have been played most by observing the popularity meter pins. The pins nearest the reset plate have been played most often. Each pin registers a maximum of thirty plays. Each play moves the pin $1/32$ -inch toward the reset plate.
2. Reset the popularity meter by pushing the reset plate against the play meter.

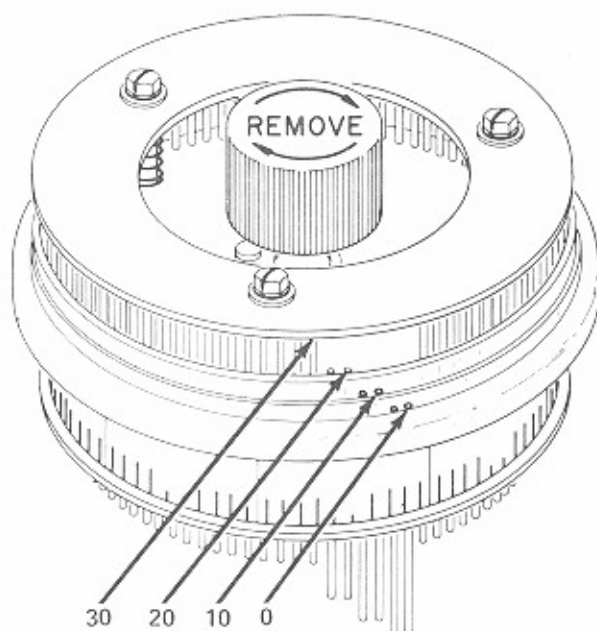


FIGURE 3.4 READING POPULARITY METER

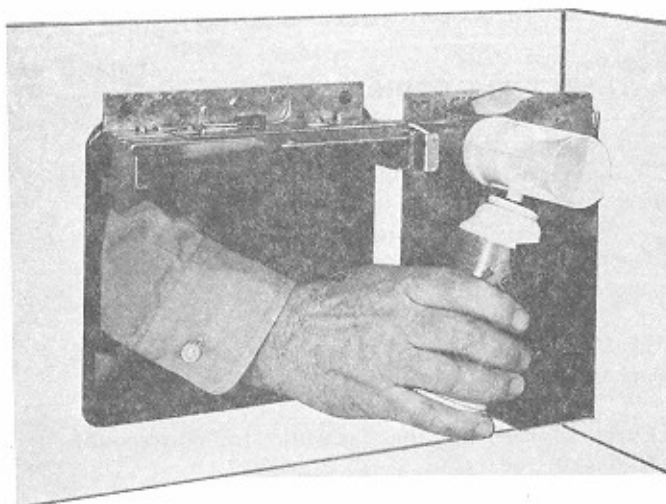


FIGURE 3.5 INSTALLING NEW FREON CAN

REARMING BURGLAR ALARM

1. Open cash box door and remove cash bag.
2. Remove Alarm by pulling can straight out from clips.
3. Unscrew used Freon can from horn. Avoid Freon contact with skin and eyes.

WARNING

**KEEP CAN POINTED AWAY FROM YOU
DO NOT SHAKE FROZEN CANS**

4. Install new Freon can. Screw firmly into place.
5. Clip horn and can in place as shown.

REPLACING LAMPS

Replacing cabinet lamps immediately if they burn out helps to maintain the attractive appearance of the phonograph. Fluorescent tubes, starters and incandescent lamps are all easily accessible within the cabinet, with two 25 watt fluorescent tubes on the front door, two 8 watt fluorescent tubes, one on each side of the cabinet, and the incandescent lamps inside the top access door.

Remove front door fluorescent lamps as follows:

1. Press tab on one lamp socket.
2. Push lamp against opposite socket and swing lamp out.

ONLY LAMP SOCKETS ON FRONT DOOR ARE QUICK RELEASE TYPE - DO NOT ROTATE LAMP IN SOCKET

To gain access to credit lamps (incandescents), open top access door. (This lock uses same key as top door lock so only one key is required.) Credit lamps are located immediately behind the credit window.

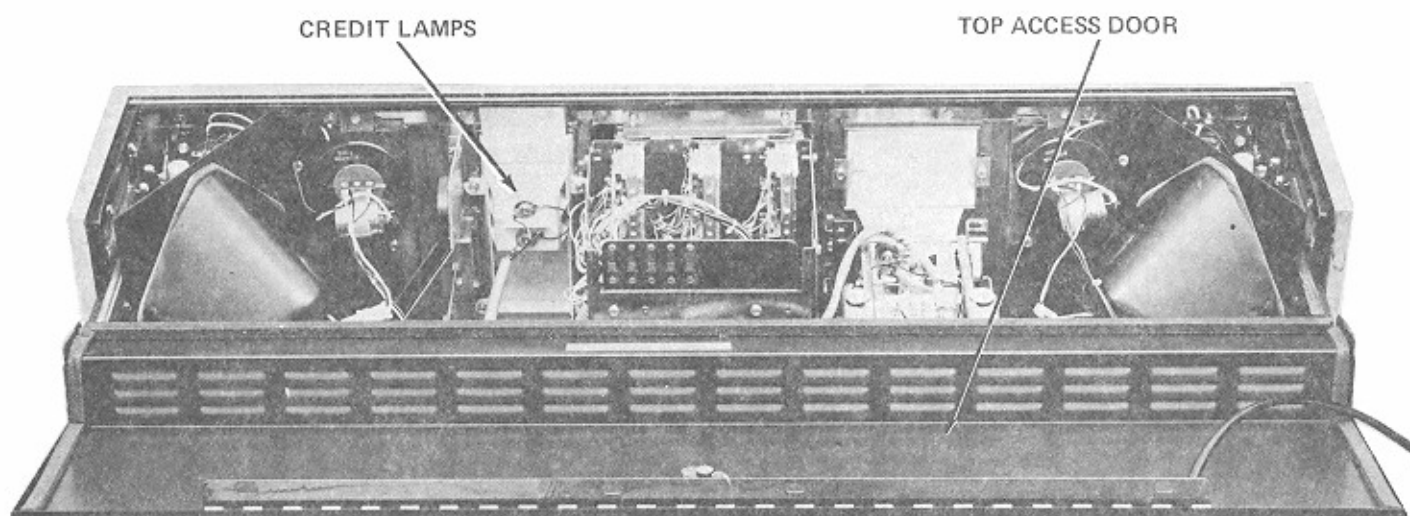


FIGURE 3-6 LOCATION OF CREDIT LAMPS

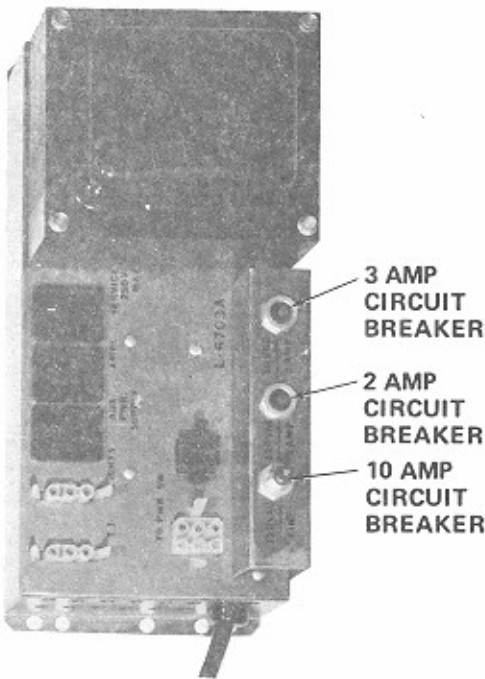
CABINET CLEANING

ACTION REQUIRED	PROCEDURE
1. Clean Glass	1. a. Clean all glass with a paper towel and a glass cleaner such as Windex. b. Dry with a clean, lint-free cloth.
2. Clean painted wood and metal surfaces	2. 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	3. 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	4. a. Wipe all plastic surfaces with a damp or dry cloth only. DO NOT USE SOLVENTS.
5. Clean electrical components	5. a. Clean all electrical components with a clean, dry, lint-free cloth or a soft bristled brush only.

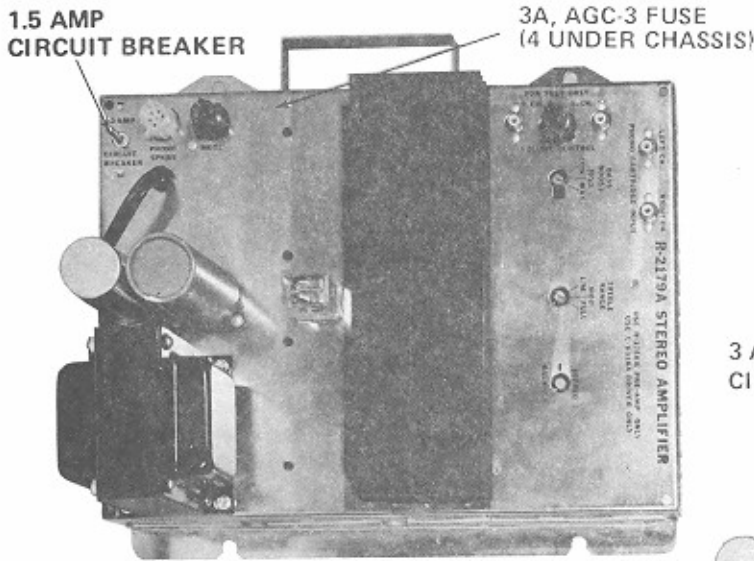
CHANGING PHONOGRAPH FUSES AND CIRCUIT BREAKERS



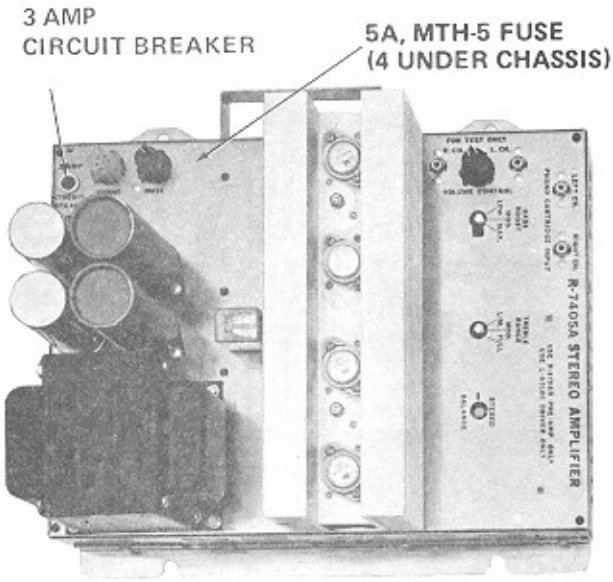
CREDIT COMPUTER



JUNCTION BOX



64 WATT AMPLIFIER



120 WATT AMPLIFIER

FIGURE 3-7. LOCATION OF FUSES AND CIRCUIT BREAKERS

SECTION 4 - TROUBLESHOOTING

GENERAL

This section contains troubleshooting charts listing probable trouble causes and corrective procedures. Fifteen sequence of operation schematic diagrams plus a complete, detailed explanation of the operation of each Phonograph component are included to aid in isolating and correcting equipment malfunctions easily and rapidly. Use the instructions in this section in conjunction with the adjustment and repair and replacement instructions in Section 5 - Maintenance to isolate and correct Phonograph malfunctions.

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TITLE	PAGE
Troubleshooting	
Credit System	4-1
Phonograph	4-4
Slug Rejector and Selection System	4-4
Record Changer Mechanism	4-6
Sound System	4-7
Amplifier Quick Check	4-9
Sequence of Operation	4-11
Principles of Operations	4-26

TROUBLESHOOTING

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 in their receptacles.
2. Check that connector pins are not bent, broken, or pushed through the back of the connector or receptacle when mated.
3. Check that wires are not broken at connector pins.
4. Check that the area of the search unit commutator board that mates with harness edge connector is clean and intact. Make sure that the connector is firmly seated.
5. Check that commutator segments are clean and that all wiper blades are properly positioned on their respective commutator segments.

CREDIT SYSTEM TROUBLESHOOTING

PRELIMINARY CHECK

In order to isolate a problem in the credit system, perform the following preliminary check. Observe phonograph functions step by step to identify the specific problem area, then proceed to Table 4-1 Credit Computer Troubleshooting Charts for specific solutions.

1. Check the setting of the program switches in the Credit Computer to make sure they are set to the desired price of play program. Also make sure the premium price switches in the selector are set to the desired position. The "test switch" (in the selector premium pricing switch bank) must be set to the "normal" position.
2. Deposit nickels, one at a time, to reach the required credit level for standard play. Check to see that the "Make Standard Selection" lamp does not light until a sufficient number of nickels have been deposited.

NOTE

IF LAMP DOES NOT LIGHT WHEN CORRECT CHANGE IS ACCEPTED, CHECK LAMP; CHECK CREDIT COMPUTER EDGE CONNECTOR.

3. Make a standard selection. The "Make Standard Selection" lamp must go out and no further selections can be made.

NOTE

IF THE DESIRED PRICE PROGRAM IS 2/25¢ OR 3/25¢, IT IS NECESSARY TO DEPOSIT 25¢ (5 NICKELS) BEFORE THE CREDIT LAMP LIGHTS. IT IS NECESSARY TO MAKE 2 (OR 3) STANDARD SELECTIONS TO CANCEL CREDIT.

4. Next deposit nickels and dimes to reach the required credit level to obtain bonus play (25¢ or 50¢ typically). Check to see that the "Make Any Selection" lamp lights, in addition to the "Make Standard Selection" lamp.
5. Make standard selections or a combination of standard and premium selections as indicated by the price of play card. The "Made any Selection" lamp goes out when premium credit no longer exists. The "Make Standard Selection" lamp goes out when standard credit no longer exists. Make sure proper credit is established for the total coin deposit.
6. Repeat the above procedure for checking credit and cancel operation at each credit level shown on the price card. Use combinations of coins (i.e. nickels, dimes and quarter) to achieve the desired deposit.
7. Establish credit on the phonograph. Interrupt power by turning the scan switch off, power switch off, etc. If the power interruption is greater than one second duration, credit must be erased. This is the method used to remove credit during test and/or troubleshooting.
8. Push the manual credit button. Credit must be established as though a 25¢ deposit had been made. Remove credit.

TABLE 4-1. CREDIT SYSTEM TROUBLESHOOTING

CHART 1 - NO CREDIT ESTABLISHED WHEN COINS ARE INSERTED

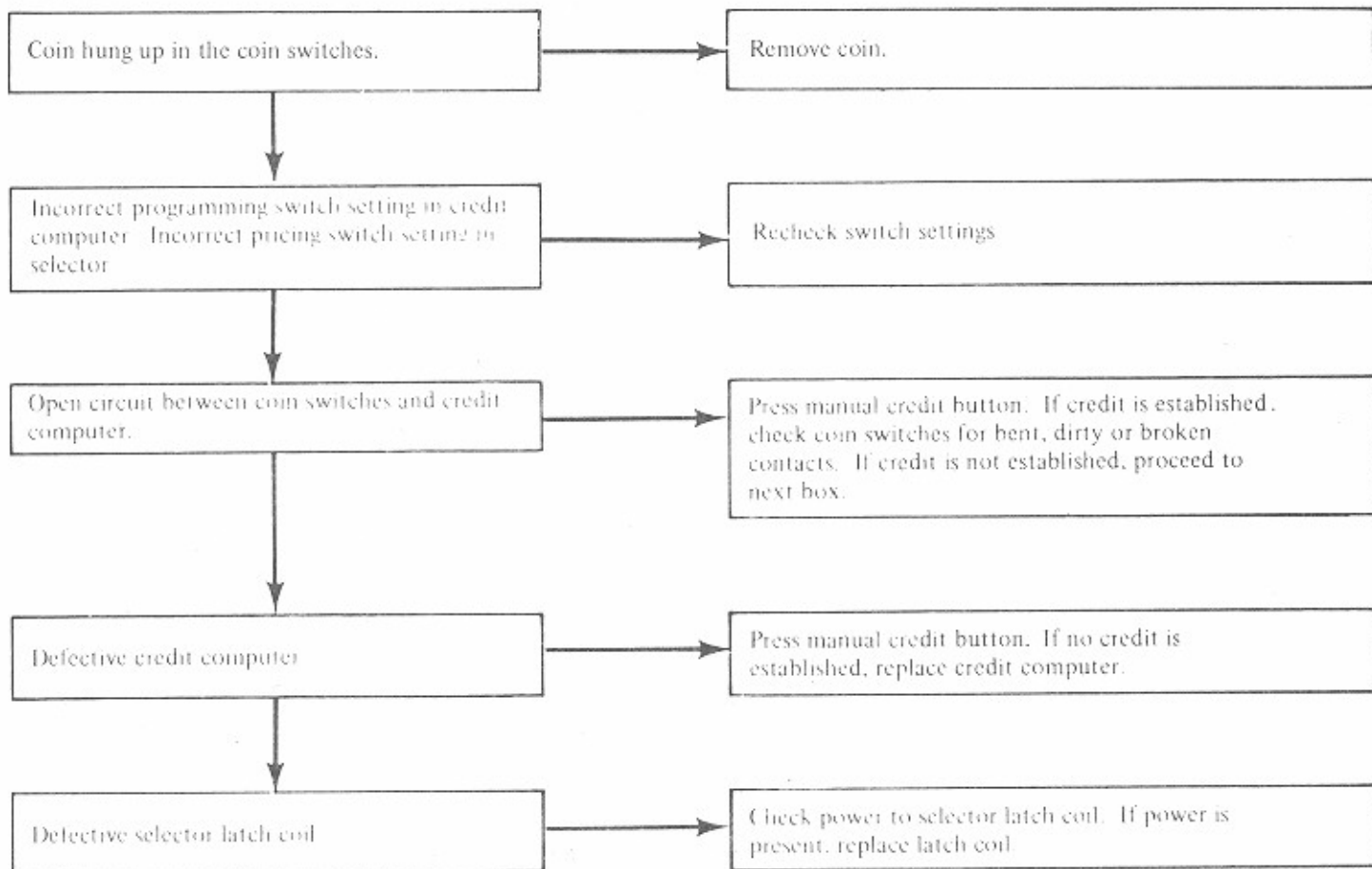


CHART 2 - TOO MUCH CREDIT ESTABLISHED WHEN COINS ARE INSERTED

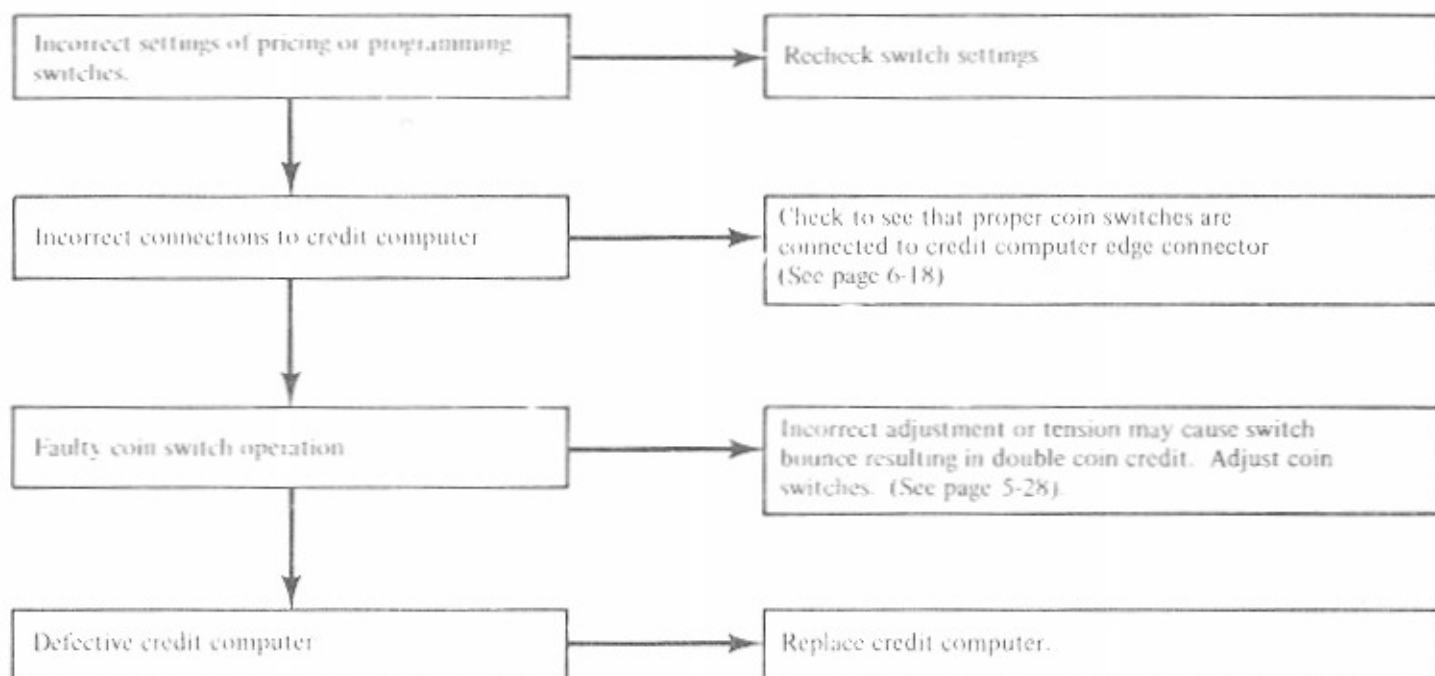


CHART 3 - INSUFFICIENT CREDIT FOR COINS INSERTED

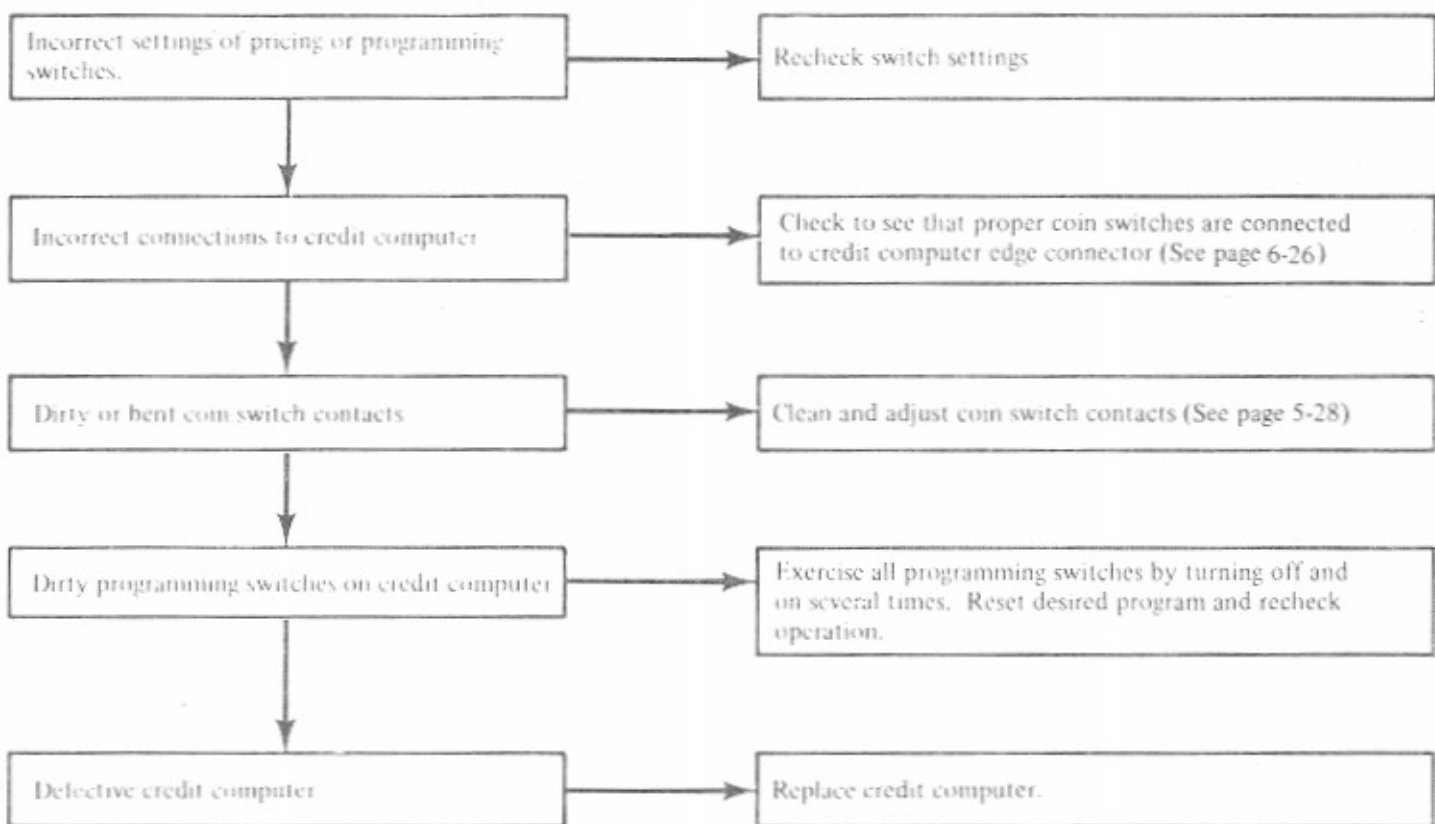


CHART 4 - CONTINUOUS FREE PLAY

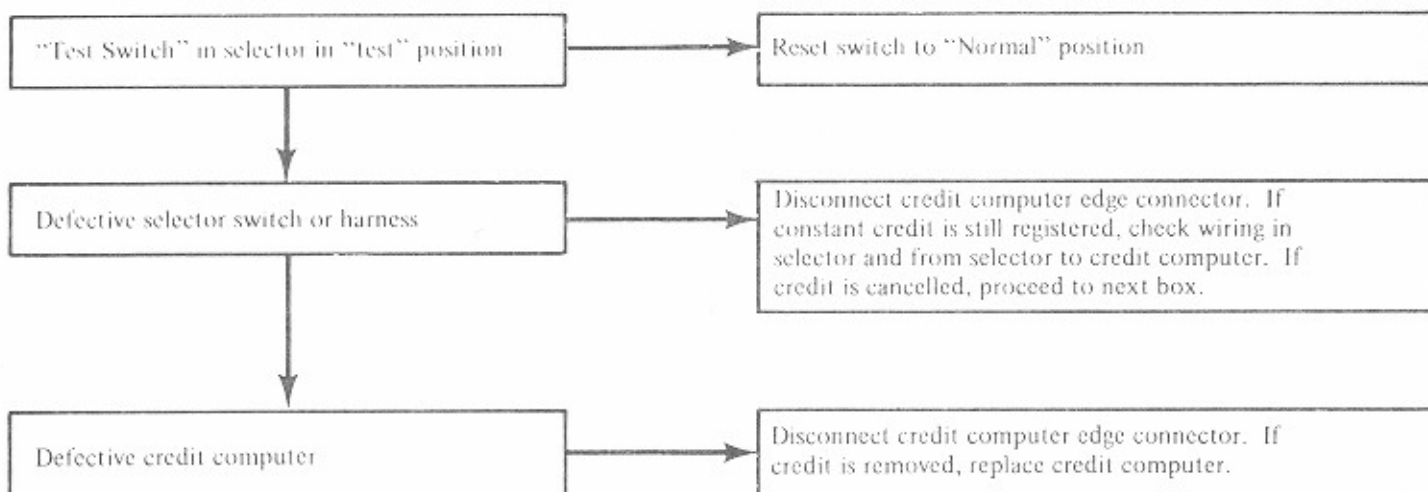
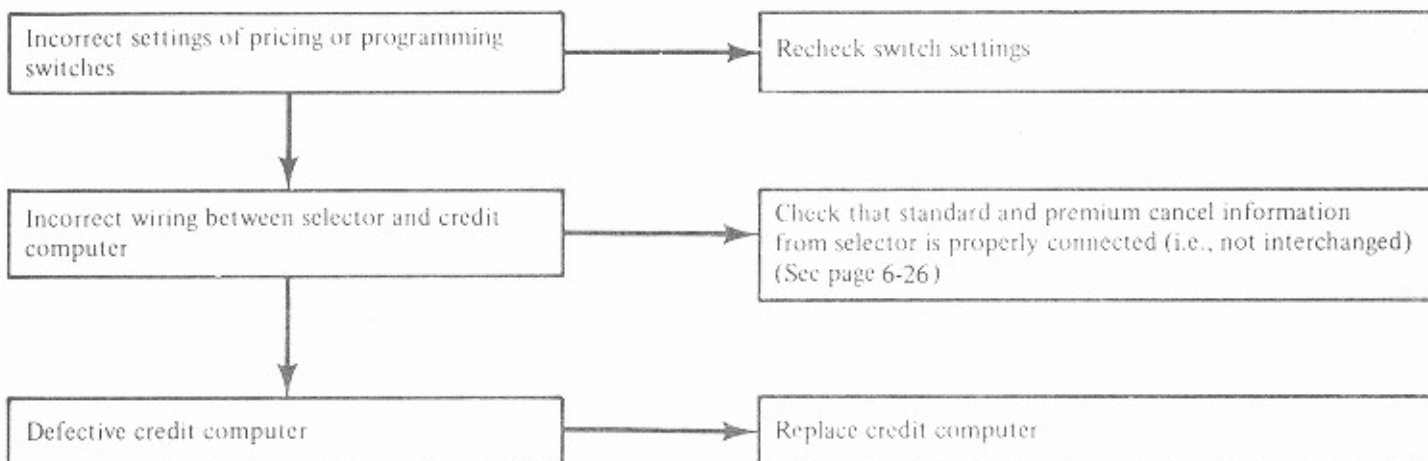


CHART 5 - IMPROPER CANCEL OPERATION WHEN SELECTIONS MADE



TROUBLESHOOTING CHARTS

The possible malfunctions of the Phonograph, their probable causes and remedies are listed in tables 4-2 through 4-4. The TROUBLE column contains specific failures. Each failure has one or more corresponding causes in the PROBABLE CAUSE column. If more than one probable cause and remedy are listed for a particular trouble, perform the procedures in the REMEDY column in the order listed.

TABLE 4-2. SLUG REJECTOR AND SELECTION SYSTEM TROUBLESHOOTING

TROUBLE	PROBABLE CAUSE	REMEDY
Valid coins fail to pass through slug rejector into cash box. Coins remain jammed in rejector.	Dirt or foreign matter clogging coin passages in rejector	Refer to coin rejector service manual for cleaning procedure. Clean in accordance with instructions.
	Scavenger binding, rejector out of adjustment	Refer to coin rejector service manual for adjustment procedure.

TABLE 4-2. SLUG REJECTOR AND SELECTION SYSTEM TROUBLESHOOTING (CONTINUED)

TROUBLE	PROBABLE CAUSE	REMEDY
Valid coins accepted, credits are established, pushbuttons do not latch in.	Latch coil not operating. Select pulse and latch relay R1 not picking up.	Check coil for continuity. Check relay contacts for closure. Replace relay or coil if necessary.
	Select pulse and latch relay R1 contacts broken, dirty, or out of adjustment. R1 not picking up after credit is established.	Clean and adjust relay contacts.
	Open circuit between credit unit and select pulse and latch relay R1. R1 not picking up after credit is established.	Check for open circuit. Refer to sequence of operation, page 4-11.
Pushbuttons latch in but release prematurely; no selection played.	Select pulse and latch relay R1 time delay circuit giving short pulse.	Check diode on selector assembly. Check relay R1 for dirt between core and armature. Replace parts if necessary.
Pushbuttons latch in; no further action.	Open circuit to search unit motor.	Check wiring. See page 6-24.
Pushbuttons latch in, search unit motor starts, but runs continuously.	Open circuit in selector assembly, wiring from pushbutton switches to search unit printed board segments.	Check wiring against selector assembly wiring diagram. See page 6-15.
	Contacts on mechanism control relay R dirty, broken, or out of adjustment.	Check mechanism control relay R for proper operation. Replace if necessary. This relay is nonrepairable.
Selection is registered, magazine rotates one complete scan cycle and stops. No record is played.	No circuit through stop switch.	Check wiring to stop switch. See page 6-8.
	Selected pin not pushed far enough; select coil not properly positioned.	Check inside and outside row select coils for proper operation. Adjust select coil arm assembly. See page 5-27.
Wrong selection is played every time.	Search unit select coil arm assembly out of adjustment.	Adjust search unit select coil arm assembly. Check search unit wiper adjustment. See page 5-25.
	Stop switch out of adjustment.	Check stop switch alignment. See page 5-5.
	Stop switch gear not properly installed.	Check stop switch gear alignment. See page 5-6.
One particular letter or number, in combination with all letters and numbers, will not register.	Open circuit in the particular letter or number wiring.	Check for dirt on search unit commutator board or wiper contacts. Clean with alcohol, if necessary. To locate the open circuit, make 20 selections in the following order: A1, B1, C2, D2, E3, F3, G4, H4, J5, K5, L6, M6, N7, P7, Q8, R8, S9, T9, U0, V0. This test combination will determine which letter or number has an open circuit.
Search unit motor energized but does not run.	Search unit gears binding.	Check for dirt or foreign matter lodged in gear teeth. Check backlash adjustment. See page 5-20.
	Tip of select coil plunger hung up on side of pin, excessive backlash causing select coil arm overtravel.	Adjust search unit gears for proper backlash. See page 5-20.

TABLE 4-2. SLUG REJECTOR AND SELECTION SYSTEM TROUBLESHOOTING (CONTINUED)

TROUBLE	PROBABLE CAUSE	REMEDY
Only one selection is made but two selections play.	Select coil plunger hitting two adjacent pins; select coil arms out of adjustment, or overtravel caused by excessive gear backlash.	Adjust select coil arm assembly. Adjust search unit gears for proper backlash. See pages 5-20 and 5-27.

TABLE 4-3. RECORD CHANGER MECHANISM TROUBLESHOOTING

TROUBLE	PROBABLE CAUSE	REMEDY
All selections register properly but magazine does not rotate.	Scan Assembly not operating	Check scan coil for open, check for binding linkage.
	Scan switch defective or out of adjustment.	Check scan switch for proper operation, adjust switch position.
	Diode D-1 open.	Check by shorting across diode.
	Cam switch CS2 faulty or out of adjustment.	Check switch for proper operation or adjust switch position.
	Magazine detent coil open or binding detent linkage.	Check coil for continuity, free linkage.
	Relay contact 1 & 9 faulty.	Check relay, replace if necessary.
	Detent switch faulty or out of adjustment.	Check switch for proper operation or adjust switch position.
	Magazine motor faulty or drive gears binding.	Check motor and gear train for proper operation.
Scan linkage operates, magazine completes one scan cycle and stops - no record is played. Stop switch jumps pins.	No circuit through stop switch	Check stop switch and wipers on back of stop switch.
	Diode D-2 defective.	Check diode.
	Short circuit in 50 MFD capacitor.	Check capacitor resistance.
	Faulty mech. relay. (R)	Replace relay.
	CS5 cam switch defective or out of adjustment.	Check cam switch for proper operation - replace if necessary, adjust switch position.
	Short circuit on common side of magazine detent coil.	Check detent coil circuit.
Magazine stops at proper selection, but record transfer assembly does not operate. Relay (R) picked up.	Open circuit to transfer motor.	Check relay contacts 6 and 10, 7 and 11, for proper operation.
	Defective transfer motor.	Check motor, replace if necessary.
Transfer arm stops in mid travel between magazine and turntable. Phono power is on.	Cam switch CS2 faulty or out of adjustment.	Check for proper operation of switch. Replace if necessary. Adjust as required.
	Open circuit breaker in junction box.	Check for short or overload condition. After correcting condition, reset circuit breaker.

TABLE 4-3. RECORD CHANGER MECHANISM TROUBLESHOOTING (CONTINUED)

TROUBLE	PROBABLE CAUSE	REMEDY
Transfer arm moves each record selection from magazine to turntable and back without being played, all other functions normal.	Diode D-3 shorted.	Check for short.
	Short circuit in cancel line, cut off switch or automatic cancel circuit.	Check for short.
	Cam switches CS-4 or CS5 faulty or out of adjustment.	Check switches - adjust or replace if necessary.
	Needle height improperly adjusted.	Adjust height of needle.
Wrong side of record plays; selection is improperly registered.	Center slip ring wiper broken or out of adjustment.	Adjust or replace.
	Left side switch in stop switch assembly faulty.	Check left side switch - replace if necessary.
	Toggle switch coil open or linkage binding.	Check coil and linkage. Replace or free if necessary.
	Diode D-3 open.	Check diode.
	Cam switch CS4 faulty or out of adjustment.	Check switch, replace or adjust if necessary.
	Mechanism relay (R) contacts 5 and 9, not making connection.	Check relay - replace if necessary.
Wrong record played, selection is properly registered.	Stop switch gear out of adjustment.	Align 200 mark on stop switch gear with step in search unit mounting bracket. See page 5-6.
	Stop switch out of alignment.	Align stop switch. See page 5-6.
Selections play over and over, pins not being reset.	Slip ring wipers No. 2 or 3 broken or out of adjustment.	Adjust or replace slip ring wiper blade assembly.
	Cam switch CS3 or CS4 faulty or out of adjustment.	Check switches - replace or adjust if necessary.
	Reset pawl out of adjustment.	Adjust reset pawl. See page 5-5.
Magazine scans continuously after last selection is played.	Detent coil plunger binding or detent assembly out of adjustment.	Manually operate plunger to check that the detent pawl locks the detent wheel. Adjust or replace if necessary.
	Scan switch faulty or out of adjustment.	Check switches, repair or replace if necessary.

TABLE 4-4. SOUND SYSTEM TROUBLESHOOTING

TROUBLE	PROBABLE CAUSE	REMEDY
No sound. Phonograph mechanical operation normal.	Amplifier circuit breaker open.	Check for short or overload condition which caused breaker to open. Reset breaker after this condition is corrected.
	Faulty mute relay	Check operation of mute relay; replace if necessary. This relay is nonrepairable.
	Cartridge leads broken or shorted.	Check that both cartridge leads are intact and that all connectors and plugs are firmly seated.
Partial or distorted sound.	Damaged stylus	Carefully check stylus, replace if necessary.
	Incorrect remote speaker hookup.	Check remote speaker connections. See page 2-6.
	Defective output transistors in either channel.	Check output transistors. Replace if defective.
	Partial short in local or remote volume control. Incorrect speaker hookup. Incorrect remote volume control hookup.	Check volume control and speaker connections as shown in sound system connection diagram. See page 2-6.
Low volume apparent in one channel.	Cartridge defective	Replace cartridge if necessary. Check by substituting a cartridge that is known to be good.
	Faulty preamplifier board.	Replace preamplifier board.
	Blown DC fuse on driver board	Blown fuse on driver board will indicate a shorted output transistor. Replace fuse and transistor. See page 5-30.
	Faulty driver board.	Replace driver board.
	Balance control not properly adjusted.	Adjust balance control for equal sound from each stereo channel. See page 2-3.
Constant high volume, cannot be adjusted at volume control.	Short in volume control circuit.	Check wiring. See sound system connection diagram. See page 2-6.
Excessive record scratch evident through speakers.	Scratched or worn records.	Replace records.
	Damaged stylus.	Check stylus force. Replace stylus.
	Treble range control set too high for condition of records.	Reduce treble range control setting. See page 2-3.
Intermittent sound.	Speaker lines shorted	Check for shorted or partially shorted speaker lines.
Excessive hum-low volume.	Broken shield on cartridge leads.	Be sure that shielding or wires are not broken at any point between the cartridge and amplifier input plug.

SOUND SYSTEM QUIK CHEK

Rowe/AMI 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. Be sure not to plug in or unplug circuit boards with power on. 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. Mute relay must be de-energized. Application of power to the amplifier should result in an audible "thump" through the speaker system. Press the circuit breaker reset pushbutton on the amplifier chassis to make sure that it has not tripped.
2. ✓ **MUTE RELAY** - Mute relay must be energized. Unplug mute relay plug from amplifier chassis socket. If the contacts transfer, the relay is OK. If the contacts do not transfer, replace the relay. If a replacement relay is not available, manually transfer the contacts and leave the mute plug disconnected to get sound. Other mute circuit components and their operations are described in the service manual.
3. ✓ **VOLUME CONTROL** - Disconnect the volume control plug from the amplifier chassis and short out socket pins 2 and 6 with a paper clip. Full volume indicates an open volume control or line. If full volume at all times is the problem and disconnecting the volume control plug doesn't help, replace the preamp board.
4. ✓ **CARTRIDGE CONNECTIONS** - Make sure that the stylus is not bent or broken; replace if necessary. With a selection playing, unplug the round 7 pin tone arm plug from the left side of the mechanism. 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.
5. ✓ **EXTENSION SPEAKERS** - To check if extension speakers are shorting out the amp, simply disconnect the extension speaker plug from the transformer package receptacle.
6. ✓ **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.
7. ✓ **REGULATOR** - Check for approximately 24 VDC at the voltage regulator as shown in the diagram. If voltage is not present, remove preamp board. If this does not restore voltage, disconnect the filter capacitor connected to the regulator - it may be shorted. If this does not restore the voltage, replace the regulator.

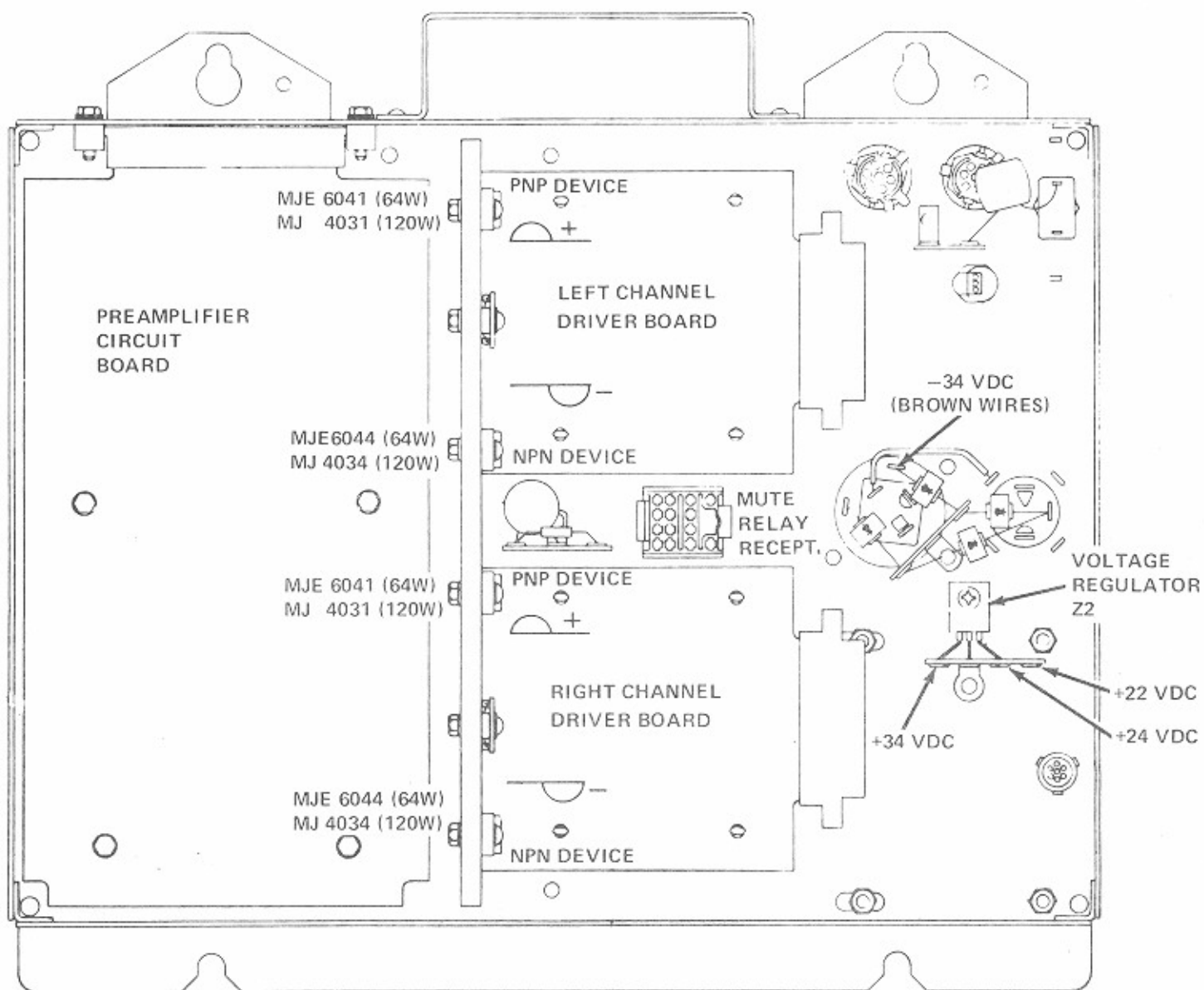
8. ✓ **FILTER CAPACITORS** - Check for 30VDC in the amplifier power supply. Connect the negative meter lead to ground and check the voltage at the terminals of the large electrolytic filter capacitors located on the amplifier chassis next to the power transformer. When taking readings on the capacitor with the outer shell isolated from chassis ground, move the negative meter lead from the 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 maybe defective and should be replaced. Another indication of defective filter capacitors is excessive hum in the sound output.

9. ✓ **PREAMP OUTPUT** - Set volume control to full volume position. With a selection playing, unplug the tone arm plug from the left side of the mechanism. Press a finger against the plug pins and check for approximately 1 VAC at the amplifier pin jacks marked "for test only". Replace preamp board if voltage is not present.

10. ✓ **DRIVER BOARD OUTPUT** - With the volume control set to full, a selection playing and one finger against the tone arm cable pins, check for 16 VAC between pins 9 or 10 of the driver board edge connector and ground. If 16 VAC is not present, replace driver board.

NO SOUND - RIGHT OR LEFT CHANNEL ONLY

1. ✓ **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 OK.
2. ✓ **EXTENSION SPEAKERS** - Disconnect extension speaker plug from transformer package to check for shorts. Exchange speaker connections between channels.
3. ✓ **OUTPUT DEVICES** - Visually inspect driver board fuses and replace output devices as described in step 6 of the previous procedure.
4. ✓ **PREAMP** - Check that the balance control is in center position. With a selection playing, unplug the tone arm cable from the mechanism and press a finger against the pins. Check that the AC voltage at each of the pin jacks marked "for test only" is approximately the same. Replace the preamplifier board if there is a wide variation in voltage.
5. ✓ **DRIVER BOARDS** - Check driver boards as directed in step 10 of the previous procedure. The AC voltage at pin 9 should be almost identical for each channel. Replace driver board if voltage is low. If a replacement driver board is not available, R-74 model amplifiers can be operated monaurally by setting the "phono spkrs." switch to the 28W, R. CH. position. If the right channel driver board is defective, switch driver boards and use right channel only.



AMPLIFIER CHASSIS - BOTTOM VIEW

CREDIT COMPUTER BOARD TROUBLESHOOTING

The 601-07593 Phonograph Credit Computer Assembly is designed around a single non-repairable MOS chip. However, the remainder of the components are discrete and can be replaced using circuit board soldering techniques. To avoid damage to the computer while attempting repair, the unit should be returned to the factory if a qualified electronic technician is not available.

TEST EQUIPMENT

To aid in troubleshooting, the TE-475 Credit Computer Tester is available. This unit provides a convenient, portable facility for operating the computer out of the phonograph cabinet. Credit is entered with pushbutton switches and accumulated credit is displayed with light emitting diodes. Other test equipment required is as follows:

- Oscilloscope - Tektronix D66, or equivalent
- Voltmeter - Ballantine 3/24 DVM, or equivalent (1 Meg. or greater input impedance)

PRECAUTIONS

To avoid damage to the MOS chip by static electricity or current leakage, observe the following precautions:

- Use a soldering iron with a grounded tip.
- Do not repair computer in a carpeted area.
- Ground all test equipment.

TROUBLESHOOTING PROCEDURE

Use the following chart to isolate and correct computer malfunctions.

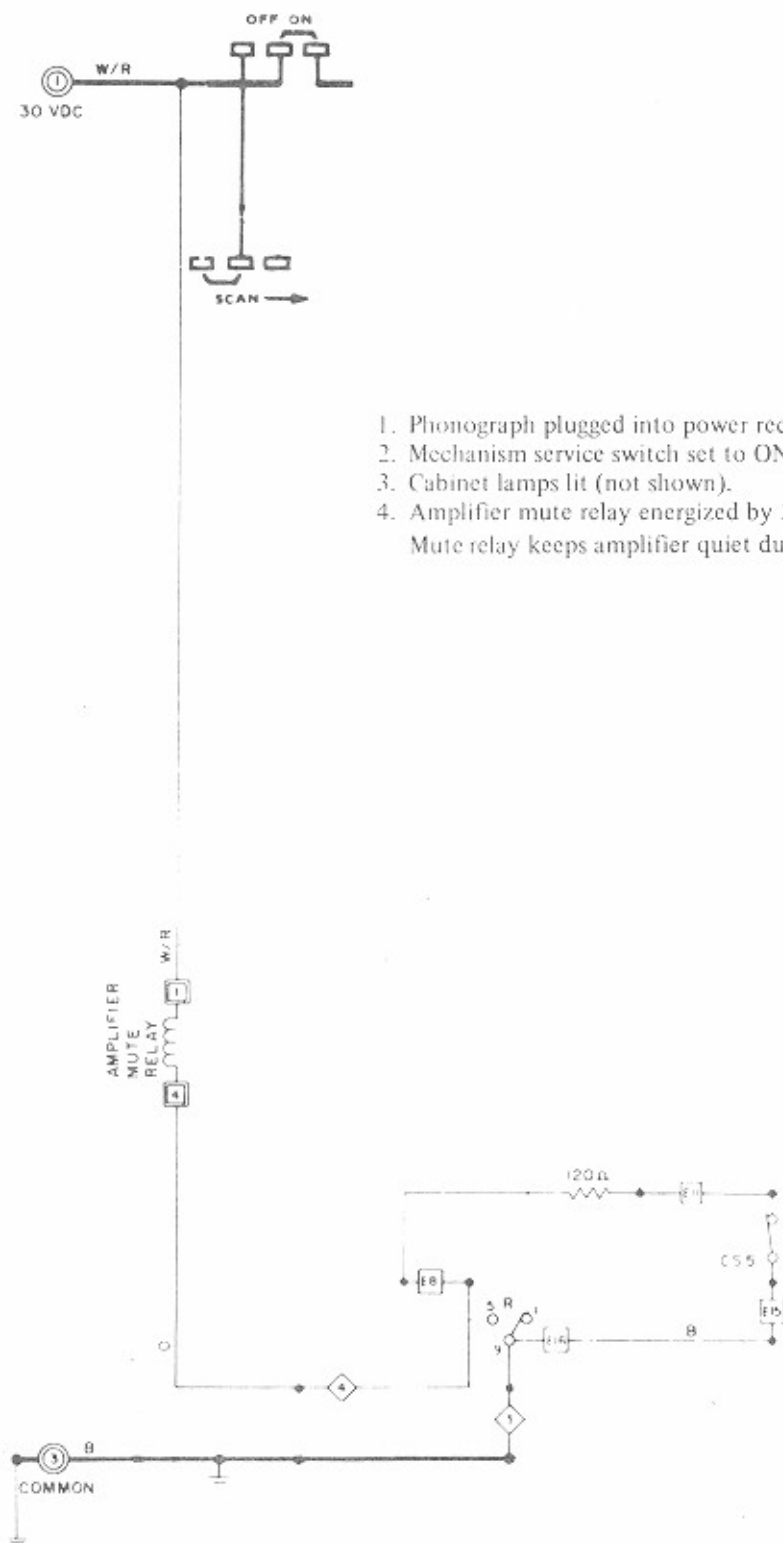
TROUBLE	PROBABLE CAUSE	REMEDY
I. Any trouble	Open Fuse	Replace Fuse
	Poor Solder Joints	Resolder
	27 VDC Power Supply Faulty	Replace bad component in circuit; Q1, Z2, CR2 thru CR5, R1 thru R5, R25
	13 V VDC Power Supply Faulty	Replace Zener Diode CR1
	Oscillator not operating	Readjust R26, Replace C10 or Z1. Frequency shall be $6.0 \pm .2$ KHz.
II. No Credit Established	Refer to cause in Section I	
A. Credit established at Z1 output pins 2 & 4 but not at computer outputs.	Faulty component in output interface circuit; Premium Credit - Q9 (K1) Q6, CR9, R21, R22, C11, R30 or R32. Standard Credit - Q10 (K2) Q7, CR10, R23, R24, C12, R31 or R32.	Isolate and replace faulty component.
II. No Credit Established (Cont'd.)		
B. Credit Not established on Z1 output pins 2 or 4.	Spurious ground on Z1 pins 12 or 13.	Isolate cause to cancel interface circuitry or Z1 and replace faulty component.
III. Continuous Free Play	Refer to causes in section I.	
A. Credit on Z1 output pins 2 & 4 can be cancelled even though there is free play on computer	Q9 or Q10 Faulty	Replace Q9 or Q10
	Faulty component in output interface circuit. Premium Credit - Q6, CR9, R21, R22, or C11. Standard Credit - Q7, CR10, R22, R24, or C12.	Isolate faulty component & replace.
B. Credit on Z1 pins 2 & 4 continuous at power turn on.	Spurious ground on Z1 pins 14-18 due to: 1. Shorting wire 2. Short inside Z1	Remove short. Replace Z1.
C. Credit on Z1 output pins 2 & 4 cannot be cancelled by cancel signals.	Cancel interface circuit, faulty. Faulty Z1.	Isolate and replace faulty component in the cancel circuit. Replace Z1.
IV. Incorrect Credit	Refer to causes in section I.	
	S1 and S2 faulty or set incorrectly.	Exercise switches or replace switches.
	Z1 faulty	Replace Z1.
	Cancel Interface circuitry faulty	Isolate and replace faulty component in the cancel circuit.

SEQUENCE OF OPERATION

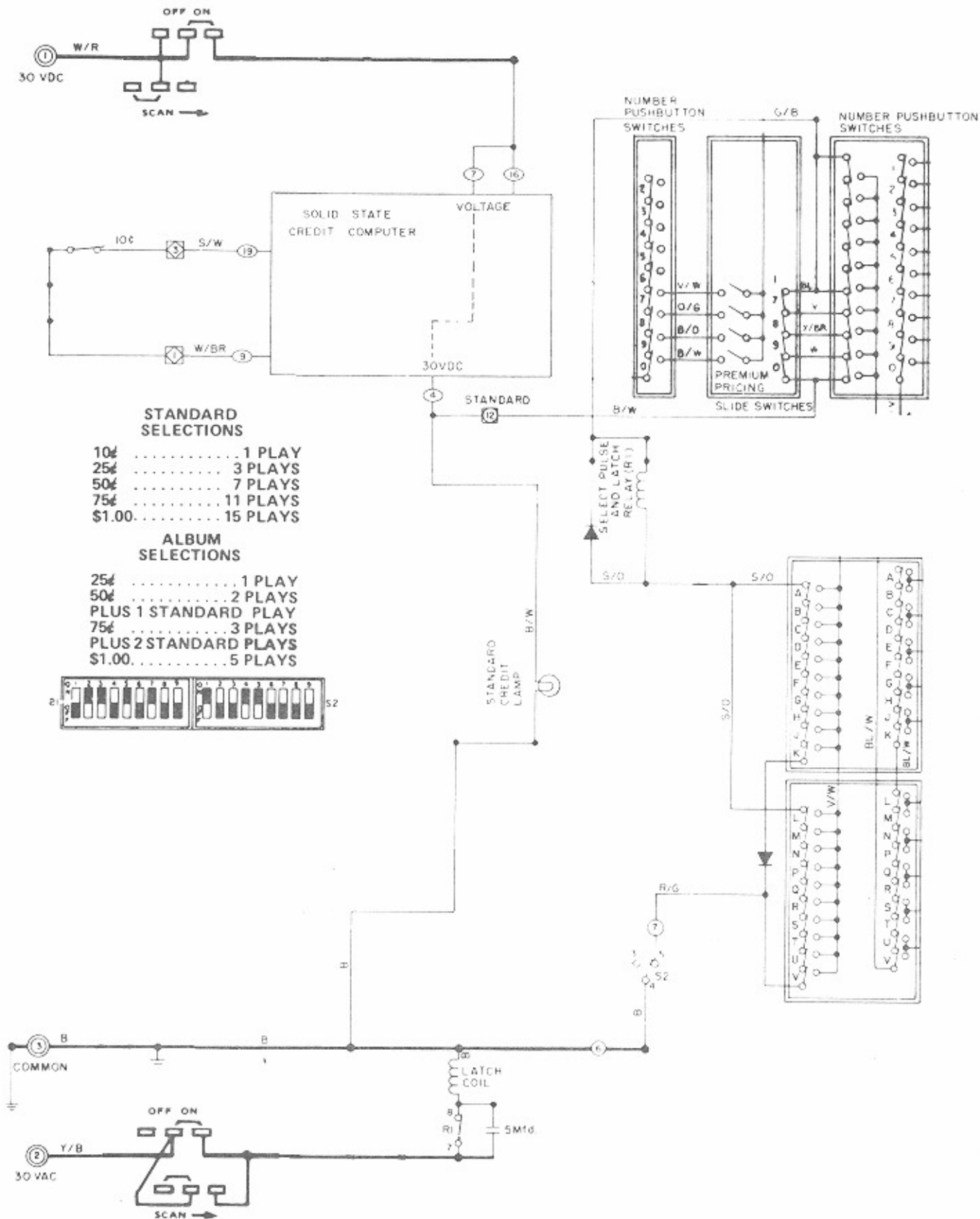
To enable you to read the sequence of operation while simultaneously viewing the sequence diagrams and complete schematic, spread foldout page 6-3 out to the right.

Each diagram is a partial simplified schematic of the phonograph schematic diagram, figure 6-1. Only the circuits under discussion for the particular sequence are shown. The accompanying text on each diagram explains circuit operations.

1. STANDBY

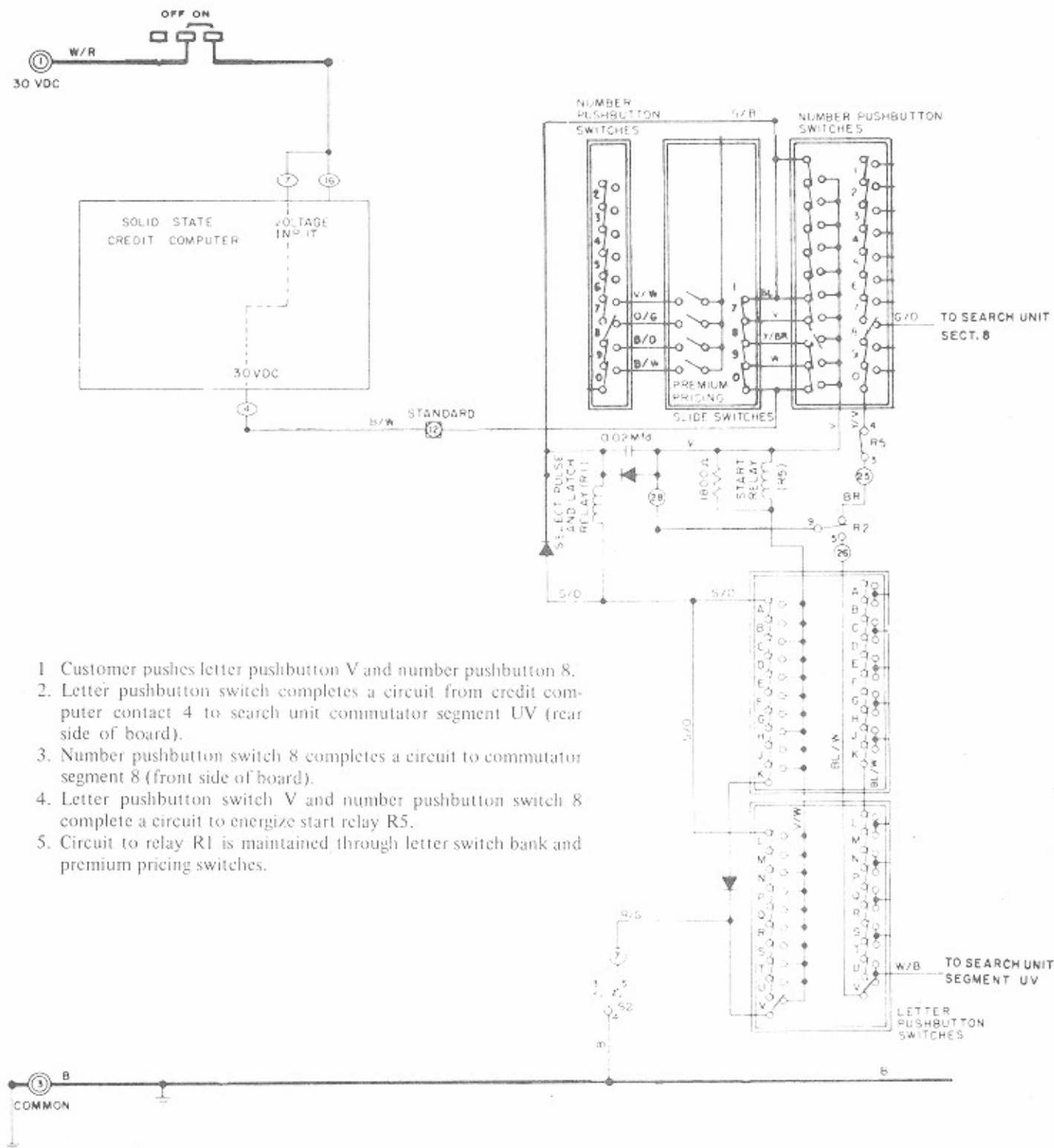


2. CUSTOMER INSERTS DIME, CREDIT ESTABLISHED

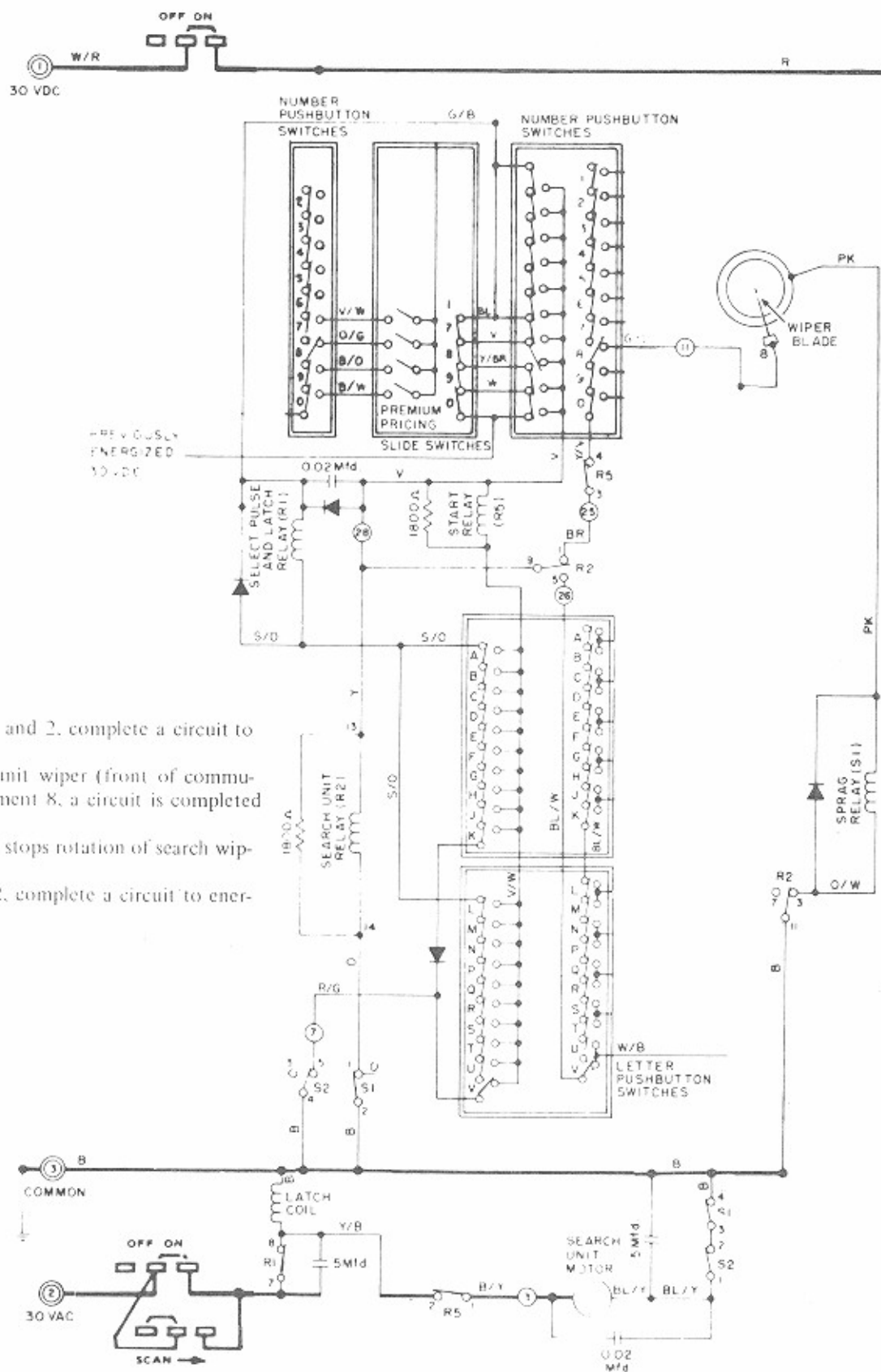


1. Assume credit computer is set for a standard price of 10¢. Dime passes through slug rejector.
2. Dime operates 10¢ coin switch lever, closing 10¢ coin switch.
3. Credit is established in the credit computer.
4. Power is applied to standard price lamp through contact 4 of credit computer edge connector.
5. Select pulse and latch relay energized through number and letter pushbuttons and sprag relay S2, contacts 4 and 5.
6. Select pulse and latch relay R1, contacts 7 and 8 pull in, energizing latch coil. Pushbuttons will latch in when pressed.

3. CUSTOMER MAKES SELECTION



4. SEARCH WIPERS LOCATE NUMBER

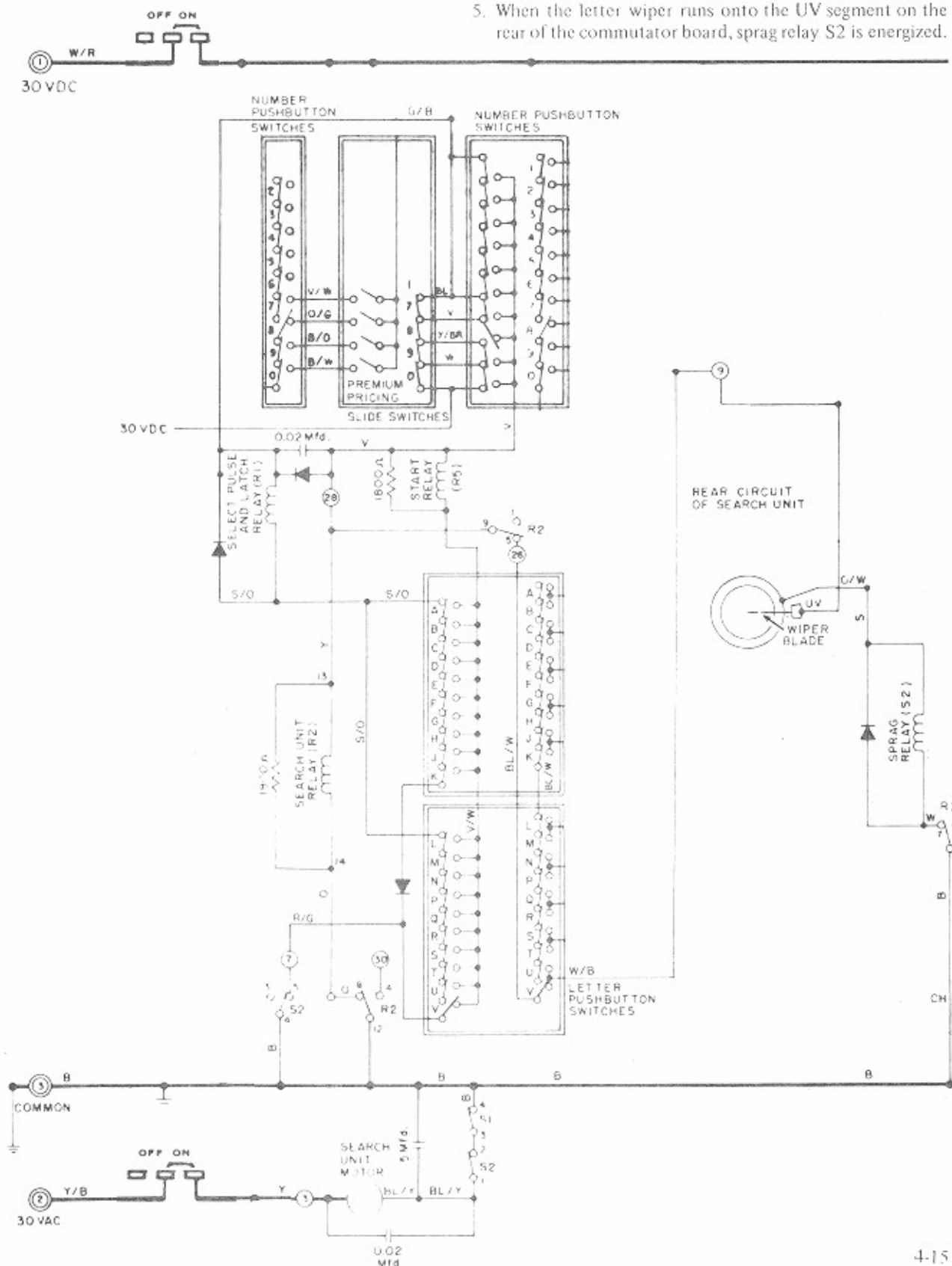


1. Start Relay R5, contacts 1 and 2, complete a circuit to search unit motor.
2. When the number search unit wiper (front of commutator board) runs onto segment 8, a circuit is completed to energize sprag relay S1.
3. The sprag tooth on relay S1 stops rotation of search wipers and select coils.
4. Relay S1, contacts 1 and 2, complete a circuit to energize search unit relay R2.

5. SEARCH CONTINUES

1. Search unit relay R2, contacts 7 and 11, transfer the common side of the circuit from sprag relay S1 to sprag relay S2.
2. Search unit relay R2, holds itself in through contacts 8 and 12.

3. Search unit relay R2, contacts 5 and 9, transfer the positive side of the selection circuit from the number pushbutton switches to the letter switches.
4. Sprag relay S1 drops out, contacts 3 and 4 energize search unit motor.
5. When the letter wiper runs onto the UV segment on the rear of the commutator board, sprag relay S2 is energized.

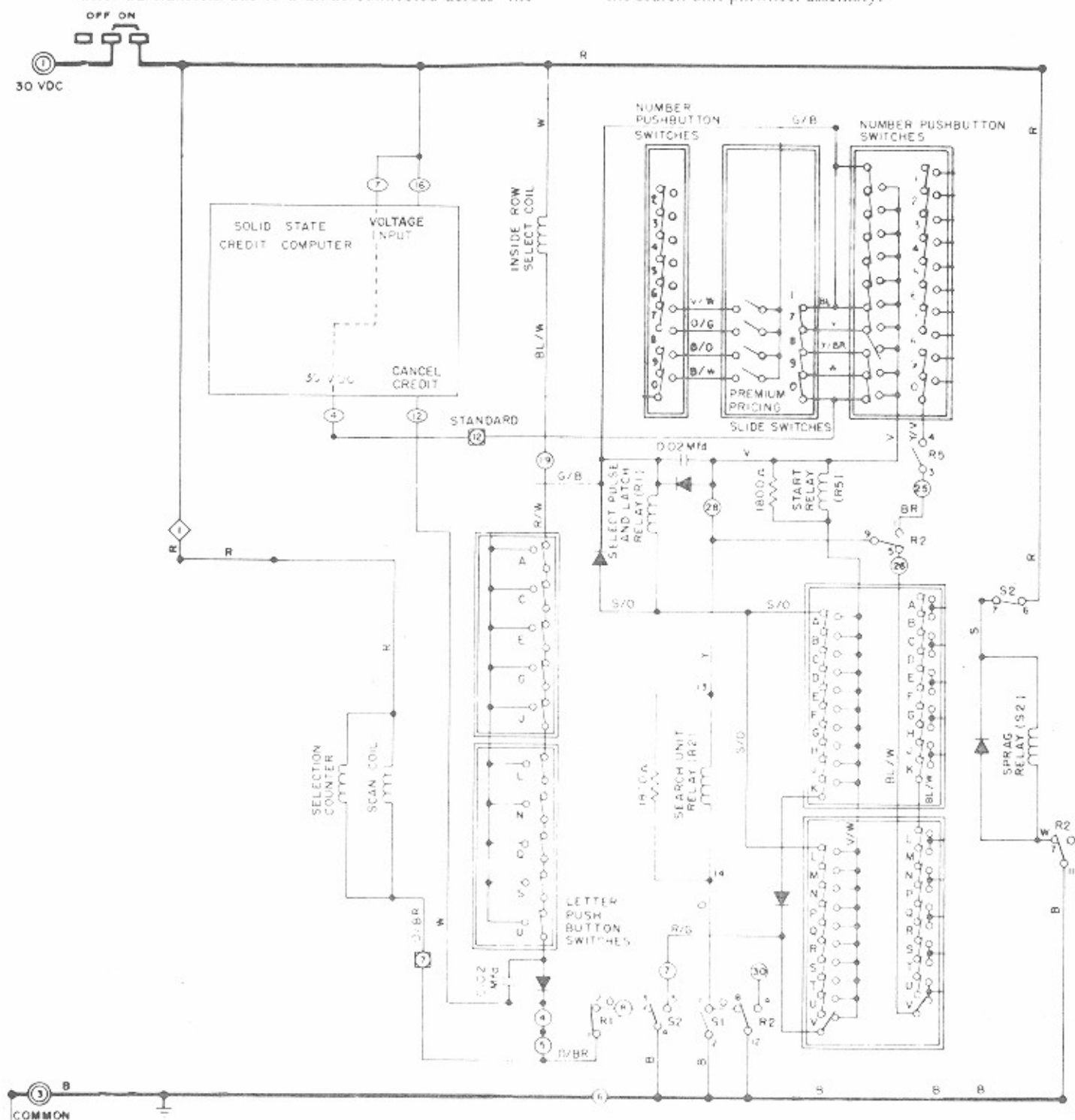


6. SELECTION REGISTERED, CREDIT REMOVED, AND SCAN CONTROL OPERATED

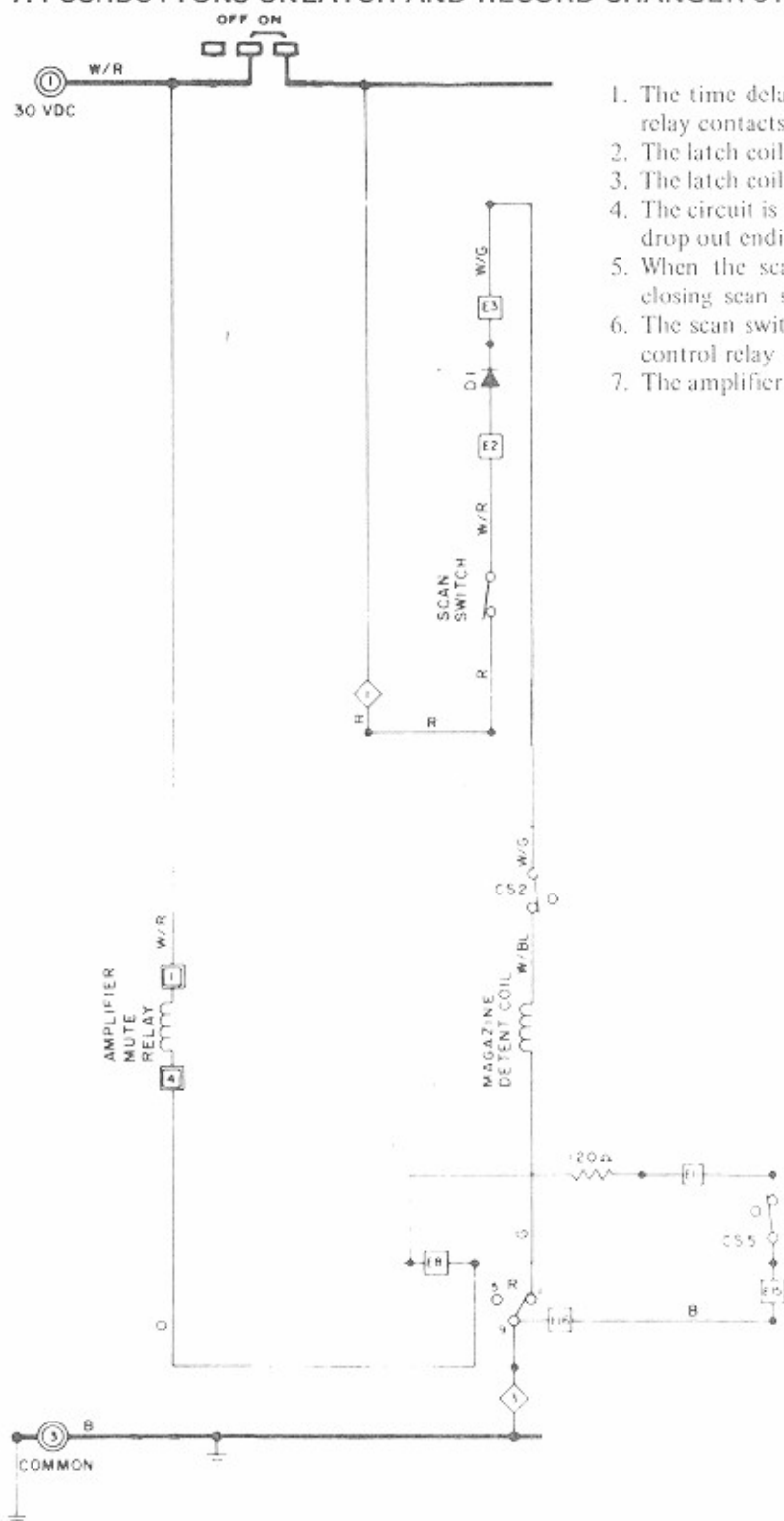
1. Sprag relay S2 locks the search wipers and select coils in place with the select coils aligned with pins representing selections U8 and V8.
2. Sprag relay S2, contacts 1 and 2, de-energize search unit motor.
3. Sprag relay S2 holds itself in through contacts 6 and 7.
4. Sprag relay S2, contacts 4 and 5, transfer, opening the circuit to select and latch relay R1. Start relay R5 drops out.
5. Select pulse and latch relay R1 is held for a short time after S2 transfers due to a diode connected across the

coil. This time delay determines the length of the select pulse. During select pulse, search unit relay R2 is held closed through number pushbuttons and R2, contacts 8 and 12.

6. Select pulse and latch relay R1, contacts 1 and 2, and sprag relay S2, contacts 3 and 4, complete a circuit to energize inside row select coil, scan coil, selection counter and contact 12 on credit computer circuit board. Circuit to credit computer cancels one standard credit.
7. Inside row select coil pushes pin into select position on the search unit pinwheel assembly.

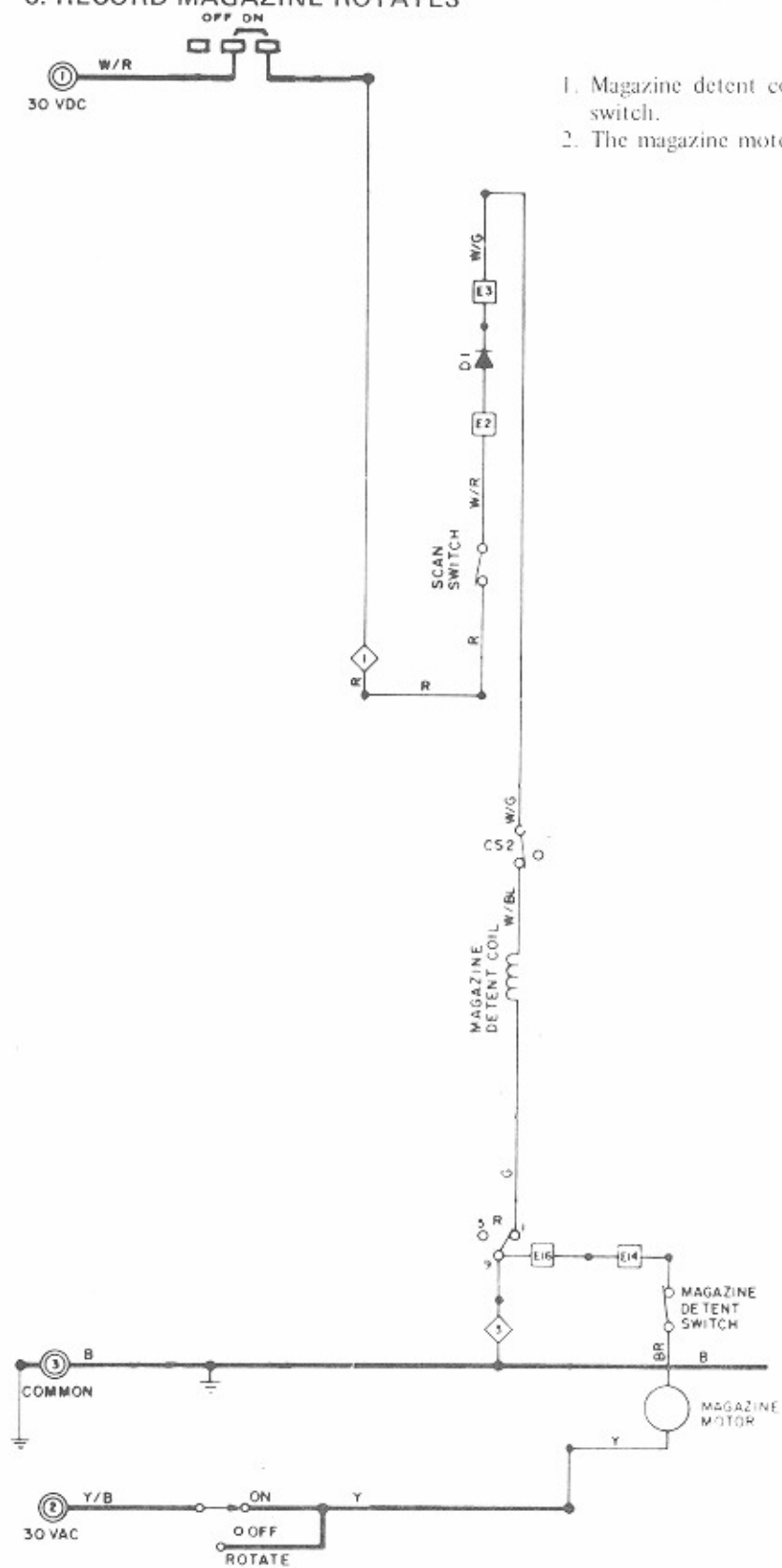


7. PUSHBUTTONS UNLATCH AND RECORD CHANGER STARTS



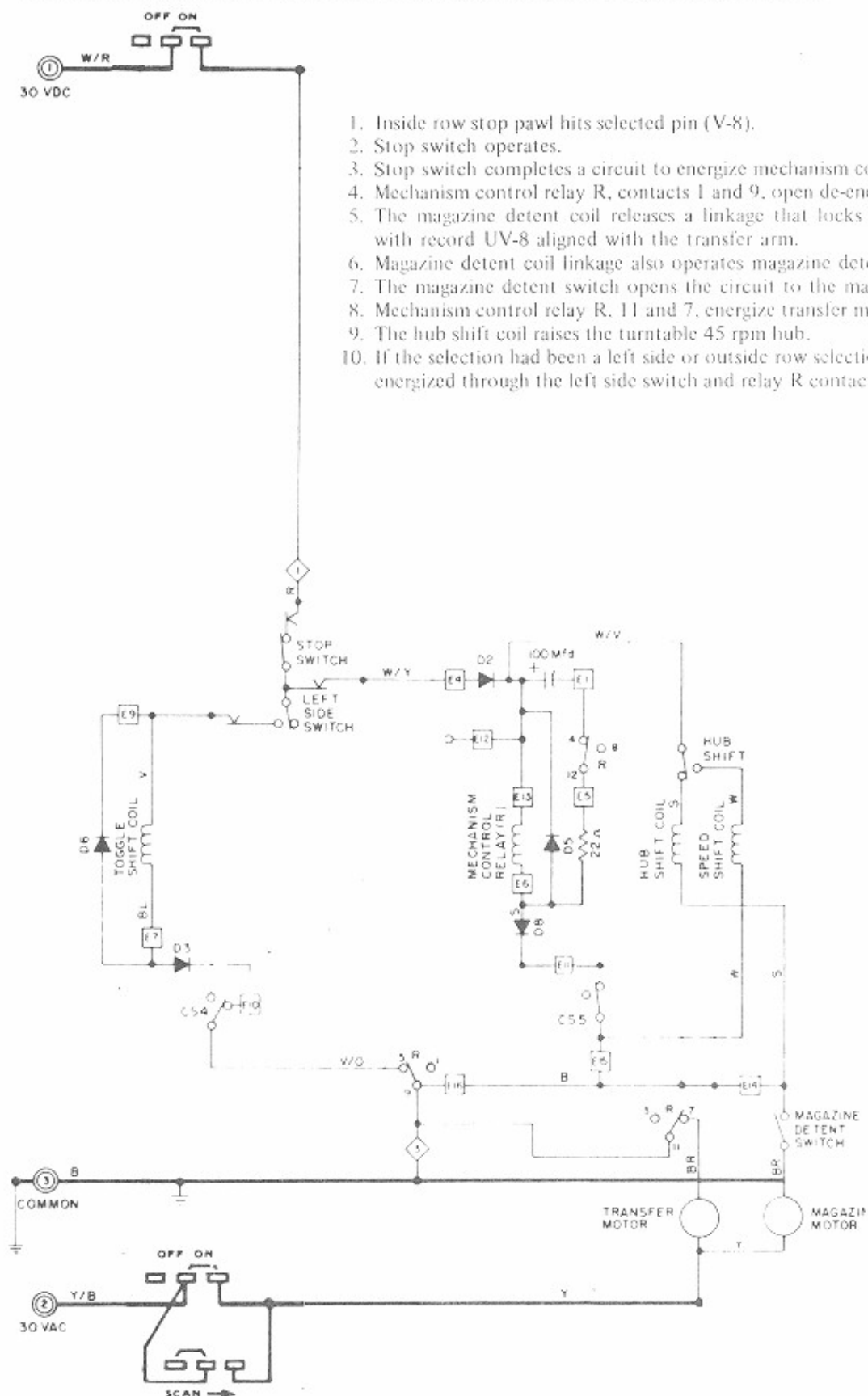
1. The time delay across select pulse and latch relay R1 runs out and the relay contacts transfer. This ends the select pulse.
2. The latch coil is de-energized.
3. The latch coil plunger releases pushbuttons V and 8.
4. The circuit is opened to search unit relay R2, sprag relay S2. The relays drop out ending the selection cycle.
5. When the scan coil was energized, it tripped the scan control gear, closing scan switch.
6. The scan switch energizes the magazine detent coil through mechanism control relay R, contacts 1 and 9.
7. The amplifier mute relay remains energized through cam switch CS5.

8. RECORD MAGAZINE ROTATES



1. Magazine detent coil unlocks the magazine and trips magazine detent switch.
2. The magazine motor rotates the record magazine.

9. STOP SWITCH PAWL HITS SELECTED PIN-TRANSFER MOTOR STARTS



1. Inside row stop pawl hits selected pin (V-8).
2. Stop switch operates.
3. Stop switch completes a circuit to energize mechanism control relay R and hub shift coil.
4. Mechanism control relay R, contacts 1 and 9, open de-energizing magazine detent coil.
5. The magazine detent coil releases a linkage that locks the record magazine in position with record UV-8 aligned with the transfer arm.
6. Magazine detent coil linkage also operates magazine detent switch.
7. The magazine detent switch opens the circuit to the magazine motor.
8. Mechanism control relay R, 11 and 7, energize transfer motor.
9. The hub shift coil raises the turntable 45 rpm hub.
10. If the selection had been a left side or outside row selection, the toggle shift coil would be energized through the left side switch and relay R contacts 5 and 9.

30 VDC

OFF ON

30 VDC

W/G

E3

D1

E2

W/R

SCAN SWITCH

R

STOP SWITCH

LEFT SIDE SWITCH

CS2

W/Y

W/G

E4

D2

100 Mfd

E1

E2

MECHANISM CONTROL RELAY (R)

E5

22 A

CS5

HUB SHIFT COIL

SPEED SHIFT COIL

COMMON

115 VAC

TURNABLE MOTOR

TRANSFER MOTOR

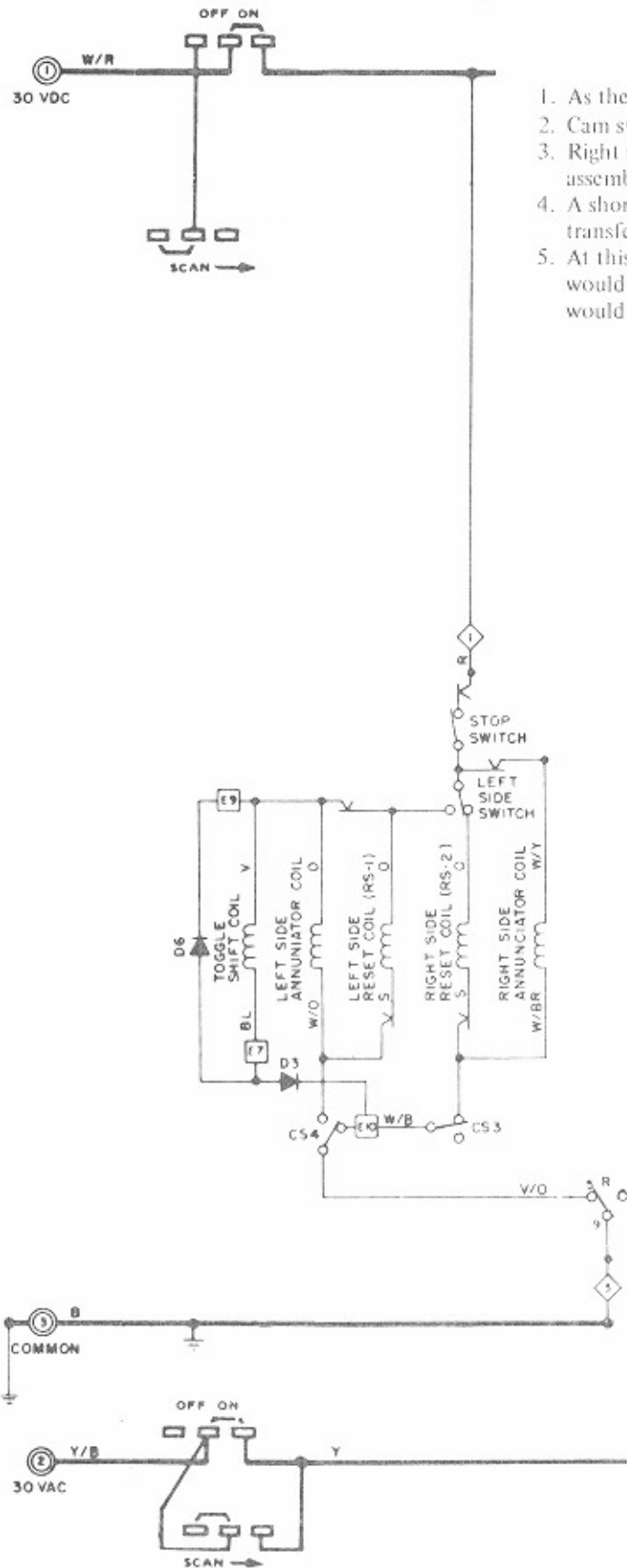
CS1

30 VAC

1. The transfer motor drives switches.
2. As the transfer assembly plying power to the turntable.
3. Cam switch CS-2 transfers
4. The transfer arm picks the

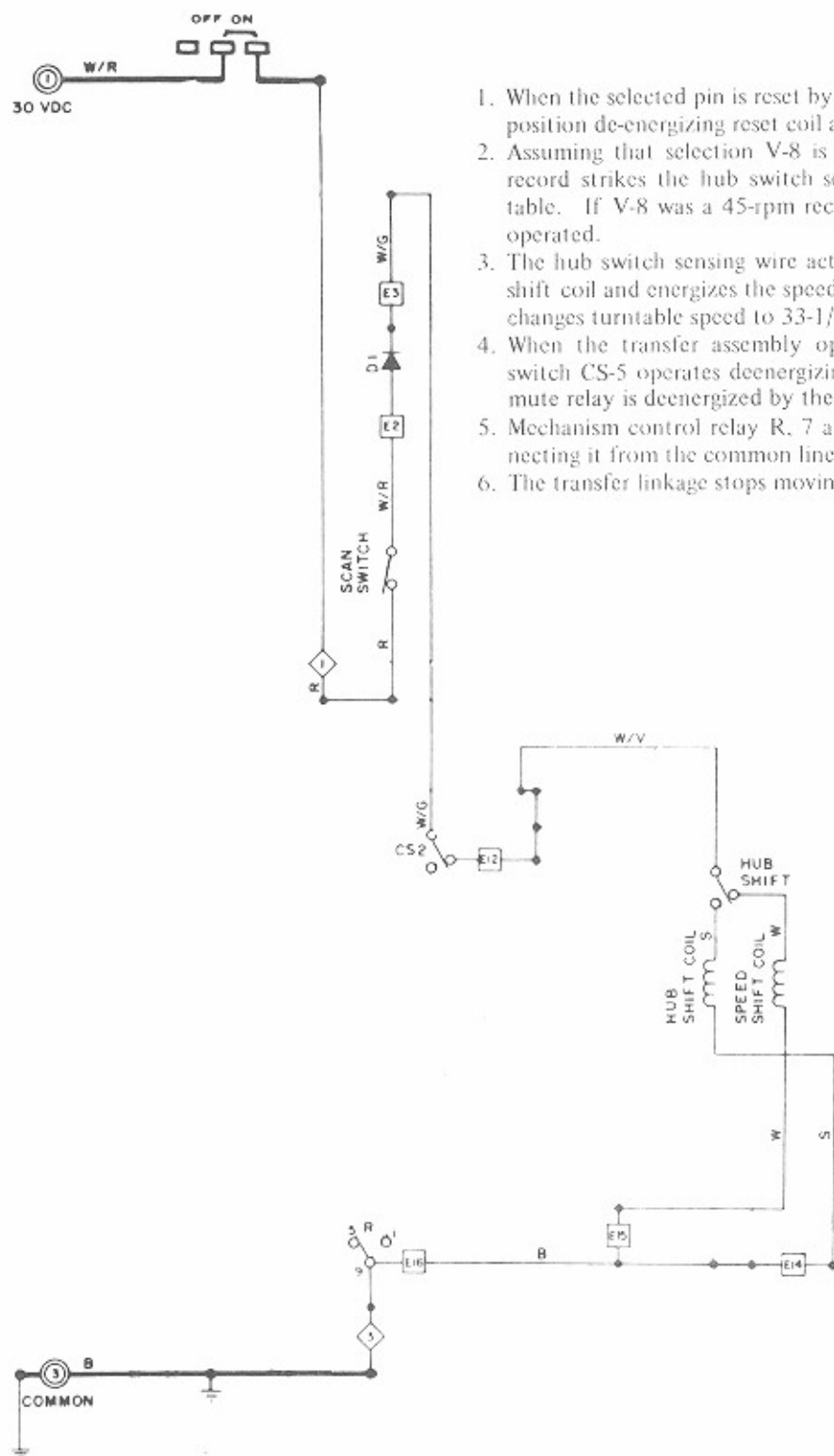
- 4-20

11.RECORD APPROACHES TURNTABLE



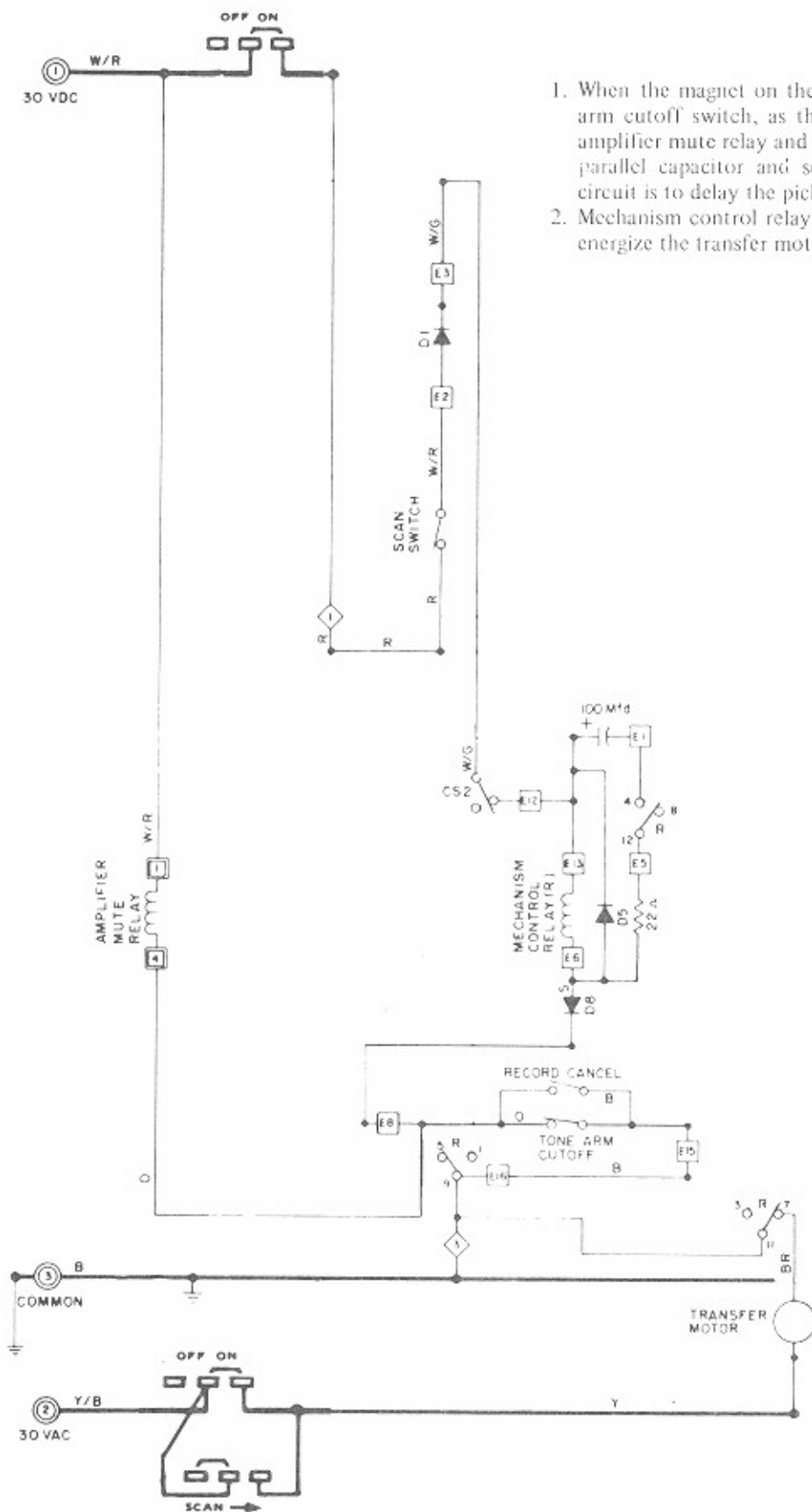
1. As the transfer motor continues to operate, cam switch CS-3 closes.
2. Cam switch CS-3 operates right side annunciator coil and right reset coil.
3. Right side reset coil plunger resets pin V-8 in the search unit pinwheel assembly.
4. A short time later, cam switch CS-3 opens and cam switch CS-4 transfers to the position opposite that shown.
5. At this time, if selection had been left hand, the toggle shift coil would be de-energized and the left side reset and annunciator coils would be operated by cam switch CS-4.

12.RECORD PLACED ON TURNTABLE



1. When the selected pin is reset by the reset coil, the stop switch returns to normal position de-energizing reset coil and right side annunciator coil.
2. Assuming that selection V-8 is a 33-rpm, 7-inch LP record, the center of the record strikes the hub switch sensing wire as the record is placed on the turntable. If V-8 was a 45-rpm record, the hub switch sensing wire would not be operated.
3. The hub switch sensing wire actuates the hub switch which deenergizes the hub shift coil and energizes the speed shift coil. This drops the large 45-rpm hub and changes turntable speed to 33-1/3 rpm.
4. When the transfer assembly operates far enough to release the record, cam switch CS-5 operates deenergizing mechanism control relay R and the amplifier mute relay is deenergized by the tone arm cutoff switch.
5. Mechanism control relay R, 7 and 11, deenergize the transfer motor by disconnecting it from the common line.
6. The transfer linkage stops moving and the record plays.

13. RECORD ENDS

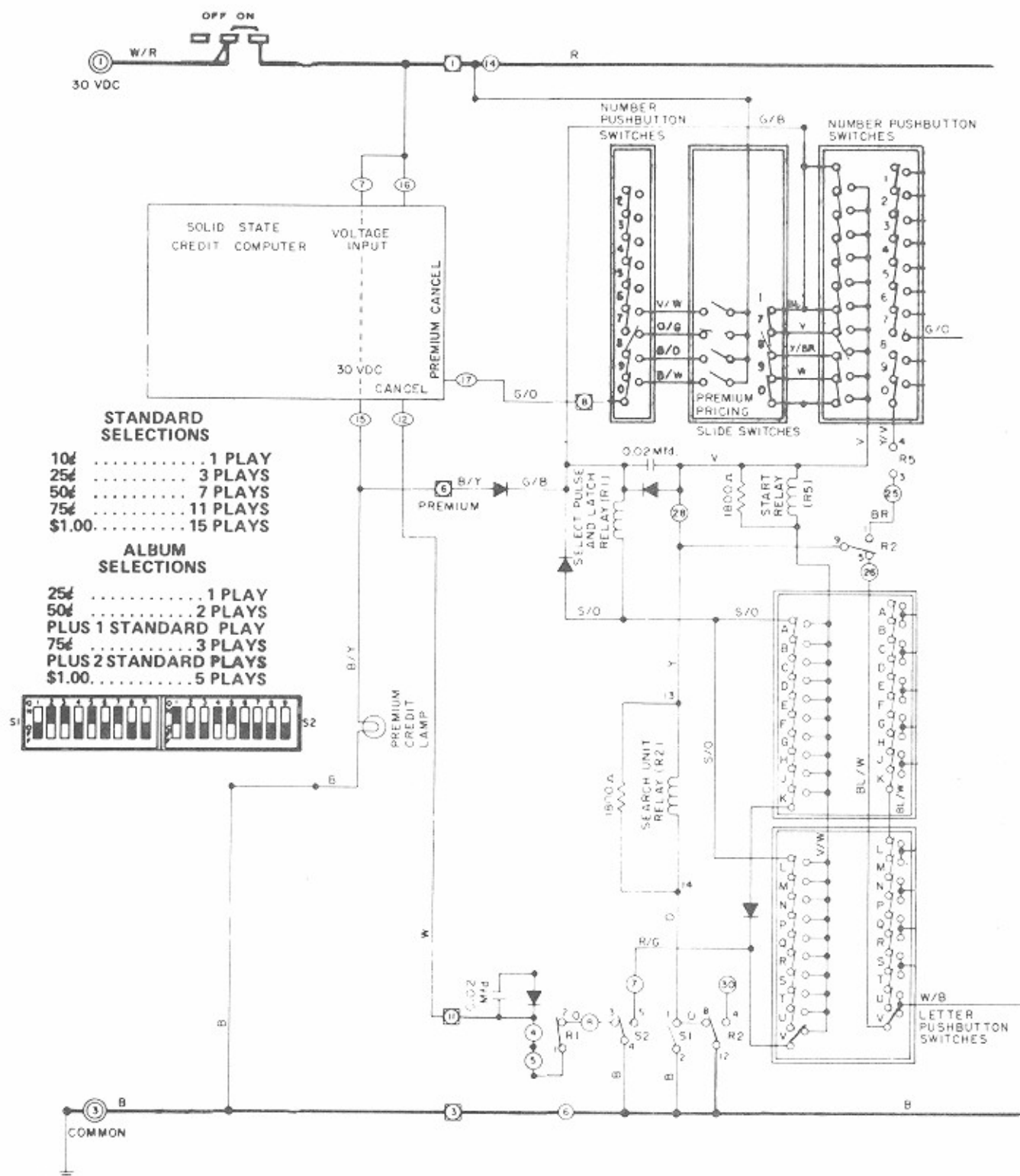


1. When the magnet on the underside of the tone arm operates the tone arm cutoff switch, as the tone arm tracks into the cutoff groove, the amplifier mute relay and mechanism control relay R are energized. The parallel capacitor and series resistor in the mechanism control relay circuit is to delay the pickup of the mechanism.
2. Mechanism control relay R, 7 and 11, complete a circuit to common to energize the transfer motor.

1. As the transfer arm places the record in the magazine, the cam operates cam switches CS-1 and CS-2.
2. Cam switch CS-1 de-energizes the turntable motor.
3. Cam switch CS-2 deenergizes mechanism control relay R and the hub shift coil and operates the detent switch.
4. The magazine motor operates until the scan control switch or stop switch operates.



15. PREMIUM PRICE AND CREDIT



1. Assume that selections 8A through 8V are all premium price. This is done by moving premium price slide switch no.8 to premium price position. Assume also that premium price has been set in the credit computer for the equivalent of three standard plays, or 25¢.
2. When the customer inserts 25¢, premium credit is established in the credit computer as in sequence 2. 30 VDC appears at contact 15 rather than at contact 4.
3. Premium credit lamp lights, and positive line is connected directly to select pulse and latch relay R1.
4. Selection occurs as in sequence 3 through 6.
5. Sprag relay S2 is energized and select pulse is applied to credit computer contact 12. Premium credit cancels through premium pricing switch 8 and number pushbutton switch 8 to credit computer contact 17.

PRINCIPLES OF OPERATION

The following paragraphs contain a brief explanation of phonograph operation. Use this text in conjunction with the troubleshooting charts and sequence of operation diagrams to isolate and correct malfunctions.

JUNCTION BOX

The junction box distributes 120-volt power to phonograph components and supplies 30-volt ac and 30-volt dc power required for phonograph operation. Power is controlled by toggle switch S1 located on the access door at the rear of the cabinet. 120-volt electrical receptacles provide for fluorescent lighting, the turntable motor, accessories, and service equipment. The primary power circuit is protected by a 10-amp circuit breaker. Transformer primary is protected by a 2-amp circuit breaker. 30-volt ac and 30-volt dc is applied to the phonograph wiring harness through a 6-circuit receptacle. Secondary circuit is protected by a 3-amp circuit breaker.

RECORD CHANGER MECHANISM

The record changer mechanism holds 100 records and plays selections on command from the selection system. Identification and location of each major component is shown below. The purpose and description of each component is explained in the following paragraphs.

Popularity Meter. The popularity meter indicates the number of times each record selection is played. The meter can register a total of 30 plays for each record. An integral plastic ring indicates 10 and 20 count points.

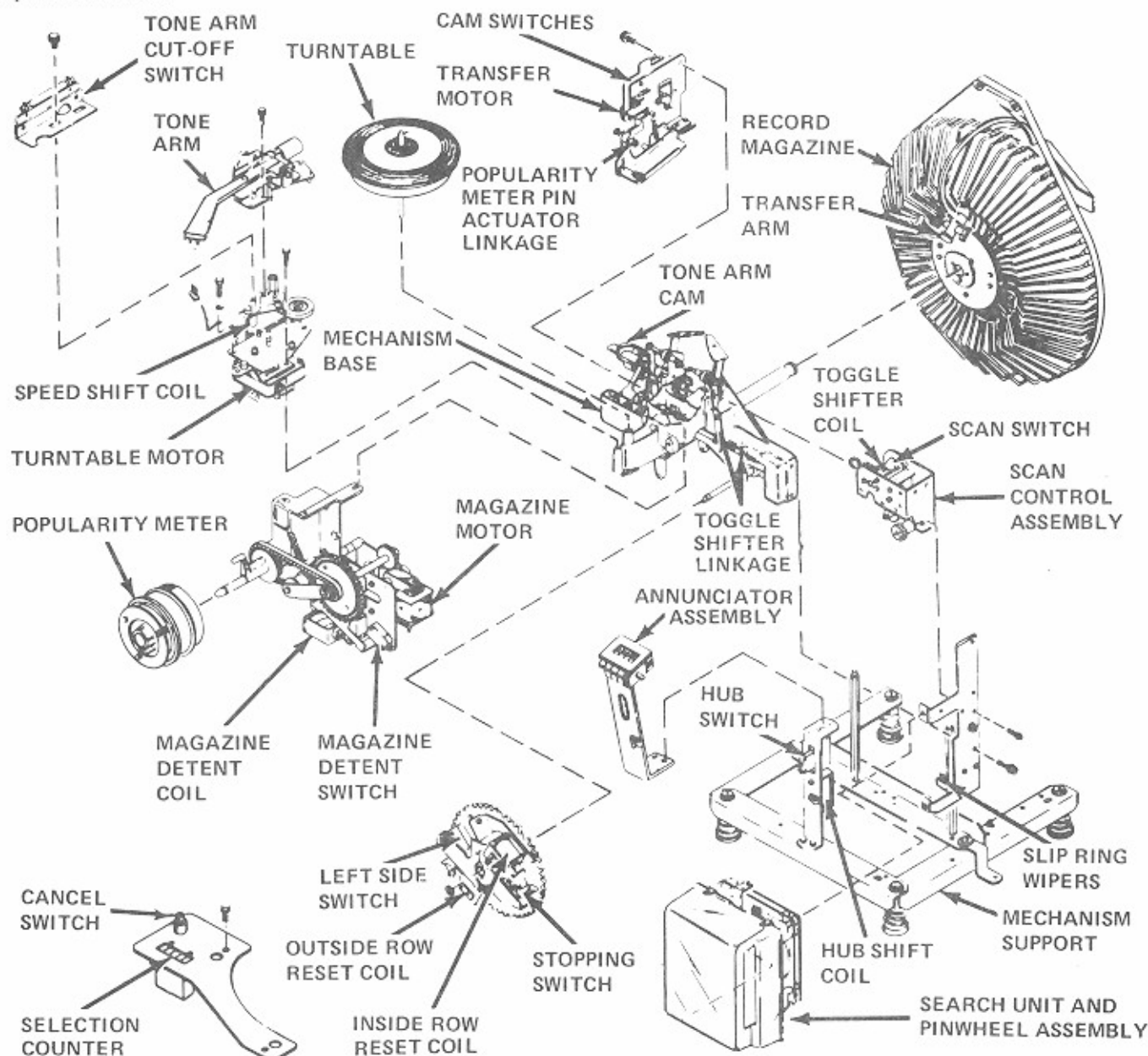


FIG. 4-1 RECORD CHANGER MECHANISM MAJOR COMPONENTS

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

Annunciator Assembly. The annunciator assembly indicates the letter and number of the selection being played. It is mounted on the annunciator bracket located on the front of the record changer mechanism. The annunciator consists of a geared letter wheel, a geared number wheel and a solenoid-operated shutter mechanism.

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 when they are at the bottom of the gripper bow bracket, above the cage. The rollers permit the transfer arm to clear the belt when removing and returning records to the magazine and also maintain belt tension.

Scan Control Assembly. The scan control assembly contains a scan coil, a micro-switch and a mechanical linkage. The assembly is mounted on the search unit bracket. When the scan coil is energized, the scan switch closes and the magazine motor starts. The scan control assembly also controls the length of scanning after all selections have played.

Search Unit and Pinwheel Assembly. The search unit and pinwheel assembly is a component of the selection system. It pushes pins on a pinwheel assembly that correspond to record selections. Refer to the selection system description for a complete explanation of search unit components and operation.

Stop Switch Assembly The stop switch assembly causes the record magazine to stop at the desired selection, determines which side of the record is to be played, and starts the transfer motor. It is mounted on the right side of the record changer mechanism directly behind the search unit.

Magazine Motor and Detent Assembly. This assembly operates the record magazine and popularity meter and locks the magazine in position. It is located at the center of the record changer mechanism, directly under the record transfer arm. The magazine motor and gear box, located behind the mounting plate, rotates the gears that operate the record magazine, stop switch gear, and popularity meter drive. The solenoid operated detent assembly locks the magazine in position.

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 four to five grams pressure. The stylus plugs into the cartridge for easy replacement. A seven-pin receptacle on the tone arm assembly mates with a plug to connect the cartridge to the pre-amplifier via 4-conductor shielded cable.

Turntable Motor and Plate Assembly. The turntable motor and plate assembly consists of the turntable motor and associated components necessary to rotate the turntable. The turntable motor rotates a rubber idler wheel, mounted on a spring-loaded idler arm. The idler wheel contacts the inner

rim of the record turntable. The turntable has heavy mass to reduce wow and flutter. Its upper surface is a rubberized pad to prevent records from slipping and to avoid record damage.

Automix. 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 4-2)

The cam switch and motor assembly consists of the transfer motor and gear box, a switch cam, and five cam switches. A nylon cam operates cam switches CS-1 through CS-5. The function of each switch is described in Table 4-5.

SWITCH	FUNCTION
CS-1	Controls turntable motor.
CS-2	Magazine motor interlock during record transfer stops record transfer in magazine.
CS-3	Operates outside row reset coil and right side annunciator coil
CS-4	Operates toggle shift and inside row reset coil and left side annunciator coil holding circuit for cancel button
CS-5	Stops record transfer over turntable.

TABLE 4-5. CAM SWITCH FUNCTIONS

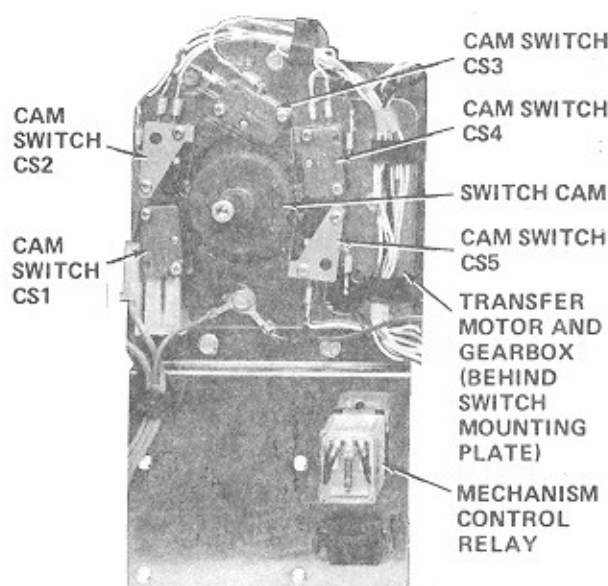


FIGURE 4-2. CAM SWITCH AND MOTOR ASSEMBLY COMPONENTS

SELECTION SYSTEM

The selection system provides a means for the customer to choose desired selections after credit is established. The selection system consists of a selector assembly and a search unit. The purpose and description of each selection system component is explained in the following paragraphs.

Selector Assembly (See figure below) The selector assembly is located above the title panel. It contains three pushbutton switch banks, a latch coil, a select pulse and latch relay, and a start relay. The pushbutton switch banks are designed A through V (no I, no O), and 1 through 0. Each pushbutton completes a circuit to a corresponding search unit commutator segment.

The latch coil mechanically latches the pushbutton switches until the search unit pushes a pin in the pinwheel assembly. Select pulse and latch relay R1 controls power to the latch coil. A delay in relay drop out due to a diode in parallel with the relay coil determines the length of the select pulse to the search unit. The select pulse permits the scan coil, and select coil to operate.

Start relay R5 completes the circuit to the search unit when both a number and letter pushbutton are operated. It also performs an interlock function in the number pushbutton circuit.

Search Unit. (See figure below) The search unit pushes pins that correspond to record selections. These pins are detected by the record changer mechanism stop switch pawl. The search unit is located on the record changer mechanism right side. The front side of the search unit printed circuit board represents the 10 numbers in the phonograph selection system. The rear side represents the 20 letters. The search unit motor drives search wipers, a sprag wheel, drive gears, and

select coil arm assembly. The motor is energized after the letter and number pushbuttons are latched on the selector assembly. When a selection is made, the search unit motor rotates the number and letter wipers on the circuit board. Each wiper searches the commutator board until the wiper blades find the hot segments that represent the desired selection. When the number wiper runs onto the "hot" segment, sprag relay S1 is energized. Sprag relays S1 and S2 keep the wiper assemblies from moving beyond the "hot" segments.

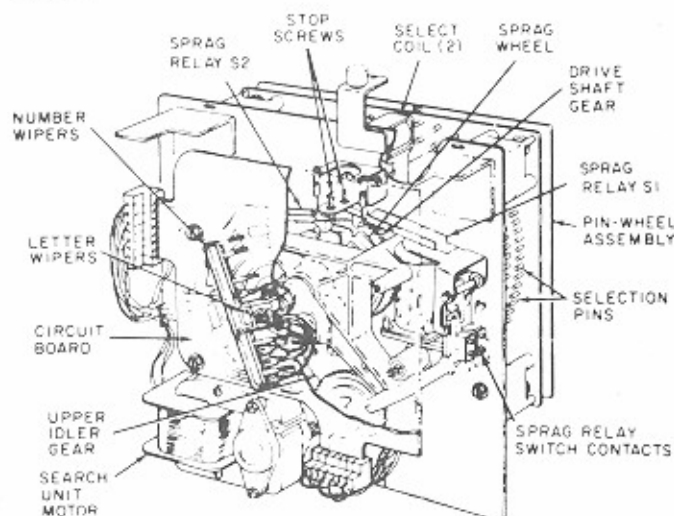


FIGURE 4-4. SEARCH UNIT MAJOR COMPONENTS

When relay S1 is energized, the large tooth at the end of the relay armature engages a notch in the sprag wheel, quickly stopping the wiper assembly. The hot side of the selection circuit is then transferred from the number side of the circuit board to the letter side by search unit relay R2.

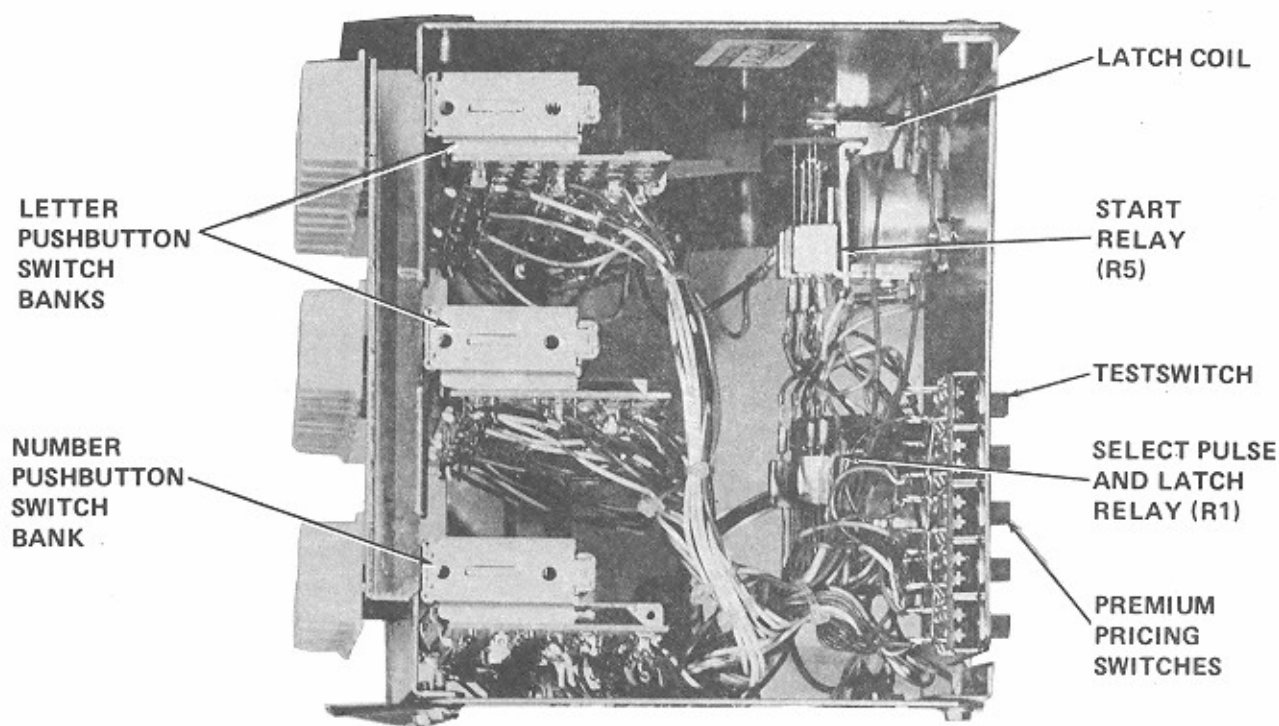


FIGURE 4-3. SELECTOR ASSEMBLY COMPONENTS

The letter wiper continues to rotate a short distance on the rear of the board. When the letter wiper runs onto the "hot" segment sprag relay S2 is energized. Relay S2 operates in a similar manner to S1, quickly stopping the letter wiper on the commutator segment. Relay S2 also de-energizes the search unit motor and energizes one of the two select coils that have been positioned by the pinwheel assembly.

The select coil plunger pushes one of the pins in the pinwheel assembly, corresponding to the chosen selection. The pinwheel assembly contains two rows of 100 1/2-inch long pins, mounted in a circular pattern. The inside row corresponds to right side selections while the outside row corresponds to left side selections. The pin is reset by a reset coil, mounted on the record changer mechanism stop switch.

The stop screws provide an adjustment of the clearance between the armature teeth of their respective sprag relays and the sprag wheel high points when the relays are de-energized.

CREDIT AND PRICING SYSTEM

The credit and pricing system validates coins deposited in the phonograph coin slot and establishes credit for record play. The system consists of a slug rejector and coin switches, premium pricing switches, and a credit computer. The identification and location of each component is shown in figure below. The purpose and description of each major component is explained in the following paragraphs.

CREDIT COMPUTER

The Rowe credit computer is a solid state credit system developed specifically for jukebox operation. Located on the middle of the rear wall of the phonograph, the credit computer accumulates credit for deposits up to 255 standard plays. There are no moving parts to wear out and no bonus relays, 2 quarter adapter, pulse chopper, 2 quarter wheel or such parts required. See "Setting Prices" in Section 2 for additional information.

Input signals are applied to the CS (coin switch) 1, CS2, CS3, CS4, and CS5 leads of the custom MOS circuit through appropriate interface circuits. One programming switch (S1-3) within credit computer permits these input signals to be weighted 1, 2, 5, 10, 20 (i.e. nickel, dime, quarter, half dollar, dollar) or to be weighted 1, 2, 4, 8, 16 (some foreign coin ratio such as 50 pf, 1DM 2 DM).

If programming switch S1-3, is on and coin switch closure on CS3 input line occurs, credit is established which is 5 times greater than minimum coin value. (i.e. 5 pulses stored). When a switch closure occurs on CS4 credit is established which is 10 times greater than minimum coin value (i.e. 10 pulses stored) etc.

As coins are deposited in acceptable denominations and in any sequence, deposits are weighted, by connection to specific input terminals, and deposit credit is accumulated (i.e. held in escrow).

Basic price of play can be established by setting additional programming switches (S2-5, S2-6, S2-7) within computer.

Basic price of play can be set to 1, 2, 3, 4, 5, 6, 8 or 10 times the minimum coin value (MCV). When weighted for American money, price of play can be set to 5¢, 10¢, 15¢, 20¢, 25¢, 30¢, 40¢, or 50¢.

When accumulated deposit credits equal or exceed the programmed price of play, credit chip provides an output signal to light standard play credit lamp ("Make Standard Selection"). It also energizes the selector latch solenoid enabling phonograph selector.

When a standard selection is made by phonograph patron a "standard cancel" signal is generated which is applied to appropriate input of credit chip (through necessary interface circuit). The "Cancel" signal cancels or erases appropriate number of minimum coin value (MCV) pulses equivalent to programmed price of play. (If set for 25¢ price of play, a standard cancel signal will erase 5 MCV pulses.)

If an over deposit is made (assume 55¢ deposited by mixed coin denominations, and 25¢ standard price) a standard selection may be made, which leaves 30¢ credit held in escrow. As long as credit remaining still equals or exceeds programmed price of play, credit computer permits an additional selection to be made. If a second "standard" selection is made, 5 additional MCV pulses (25¢) are cancelled. When the remaining MCV deposit credits are less than programmed price of play, credit chip removes the latch solenoid signal and removes the signal which lit "standard credit" lamp in the phonograph. Since two standard play selections were made (totalling 10 MCV pulses) and 55¢ was deposited (totalling 11 MCV pulses) one MCV pulse (5¢) remains in storage. If additional coin deposits (nickels or dimes) accumulate an additional 20¢, these deposits and the 5¢ held in escrow will enable another "standard play" selection.

In addition to the ability to set standard price to 5¢, 10¢, 15, 20, 25, 30, 40, or 50¢ it is possible to add bonus plays at predetermined levels of deposit by setting additional programming switches (S2-8, S2-9). First bonus level may be set to 2, 3, 4, or 5 times the MCV (i.e. 10¢, 15¢, 20¢, or 25¢). When first bonus level has been programmed, a second, third, and fourth bonus level exists at 2, 3, and 4 times the level at which first bonus level occurs. For instance, when American coinage is used, the first bonus level is set to 25¢ (5MCV). This means that when 25¢ has been deposited it is possible to provide bonus plays, in addition to the standard play procedure. Since additional bonus levels are possible at 2, 3, and 4 times the first bonus level, it is possible to add bonus plays at the first bonus level (25¢), and at 50¢, 75¢ and \$1.00 accumulated deposit levels. From 0 to 3 bonus plays may be added at first (25¢) and third (75¢) bonus levels. From 0 to 7 bonus plays may be added at second (50¢) and fourth (\$1.00) bonus levels. Bonus plays are accumulated in another memory register within credit chip.

When programmed for standard play credits and bonus plays, record selection process cancels bonus plays first. When sufficient phonograph selections have been made to

cancel all accumulated bonus plays, subsequent record selections erase the appropriate number of MCV pulses.

When a bonus play is provided, it is necessary to deposit sufficient coinage totaling the standard play price, before an additional standard play is added. For example, if standard price was programmed for 15¢, deposits totalling 15¢ would result in one play credit (15¢ or 3 MCV pulses stored). If one bonus play was programmed at 25¢, then patron would get one play for the first 15¢ deposit and a bonus play for inserting enough money to reach the (1st) 25¢ bonus level. Having provided a bonus at the 25¢ accrued deposit, it now requires additional coin deposits of 15¢ to receive next standard play credit. (Which would occur at 40¢ total deposit). If no bonus credit was provided at 25¢, the first 15¢ would provide a standard play and the over-deposit (10¢ extra) would remain in escrow. Insertion of an extra 5¢, would then add to the 10¢ deposit in escrow to provide a second standard play.

It is also possible to accommodate premium (album) priced records through programming switches. When selections are made which are "premium" priced, the cancel signals will erase 2, 3, 4, or 5 accumulated play credits, depending on programming switch settings. Depending on the "premium" price programmed, credit chip has a premium selection output to enable premium selections and to light premium credit lamp ("Make any Selection"). When insufficient credit exists for "Premium" price programmed, premium selections are inhibited and "Make any Selection" lamp goes out.

The Credit Computer also provides an output signal which can be used with an (accessory) item - the Print-Out Money Meter. The money pulse signals from Credit Computer occur for each deposit, and appear as a series of pulses of Minimum Coin Value (MCV). For example, when a nickel is deposited (minimum coin value) a single MCV pulse is provided to the money meter. When a dime is deposited, two (MCV) pulses occur. When a quarter is deposited, five (MCV) pulses occur. These pulses are registered by the money meter.

Slug Rejector and Coin Switches. The slug rejector takes good coins and rejects slugs and bad coins. It takes nickels, dimes, quarters and half-dollars.

The coin switches establish credit in the credit computer. They are located at the bottom of the slug rejector. They are operated by the coins as they fall into the cash box. A good coin moves the switch lever, closing the switch and completing a circuit to the credit computer board.

Premium Pricing Switches. The premium pricing switches are located on the selector assembly. Each switch represents one number selection group and may be set for premium (album) price or regular price as desired. A test switch is also provided. This switch can be used as a "free play" switch.

SOUND SYSTEM

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 4-5. 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 pre-amplifier.

Preamplifier and Amplifier (See page 4-31). The preamplifier units amplify phonograph cartridge output and drive the speaker system. The latest concepts in silicon transistor circuitry are designed into the 64-watt stereo system. It delivers a full 32 watts rms power per channel. Its wide frequency response and low distortion assure good record reproduction. The unit incorporates automatic volume control (AVC) and automatic quality control (AQC).

The output stage is coupled to the speakers. Treble range and bass boost controls are provided on the preamplifier chassis to compensate for differences in room acoustics. A mute relay silences the amplifier while a record is being transferred to or from the turntable. Preamplifier 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. (See schematic, page 6-22) The preamplifier amplifies the phonograph cartridge output to drive the power amplifier. The preamplifier circuit board is identical for both the 64 and 120 watt amplifiers. The components for both the right and left audio channels are contained in a single plug-in circuit board mounted under the amplifier chassis. Right channel component designations end in the letter R while left channel components end in the letter L. Because both channels are identical, only the left channel, in the lower part of the schematic diagram, will be described.

Transistors Q1L and Q2L comprise the first amplifier stage. The cartridge output is applied through pin 9, R1L and C1L to the base of Q1L. The signal is amplified and passed through R3L and C3L to the base of Q2L. The signal is once again amplified and passed through R7L, C4L, R10L, and C5L to the base of Q3L.

The signal level at the junction of R10L and C5L is controlled by the automatic volume control at the junction of D7 and D8. Transistor Q3L, in an emitter follower circuit, does not provide amplification. The signal is coupled to the base of Q4L through C6L.

The amplification gain of transistor Q4L is determined by the setting of stereo balance control potentiometer R52.

This control provides a means to equalize the gain in both channels. From the collector of Q4, a portion of the signal is coupled to the automatic volume control (AVC) circuit, Q10 and Q11. This signal arrives at the base of Q10 through C7L, R19L, and D10. In addition to being coupled to the AVC circuit, the signal is also fed to the treble range control circuit through R17L and R20L.

The signal at the base of Q10 is amplified by the Q10 and Q11 stages and appears at the collector of Q11. The

collector voltage charges C24 through D9 and R24. The voltage across C24 is proportional to the signal from the tone arm cartridge. The voltage at C24 is bled off through R43 developing a bias current for D7 and D8. The bias current is controlled by the volume control setting. This circuit is opened by the mute relay when the amplifier is in the muted mode. The volume control current is developed by D12 and D13.

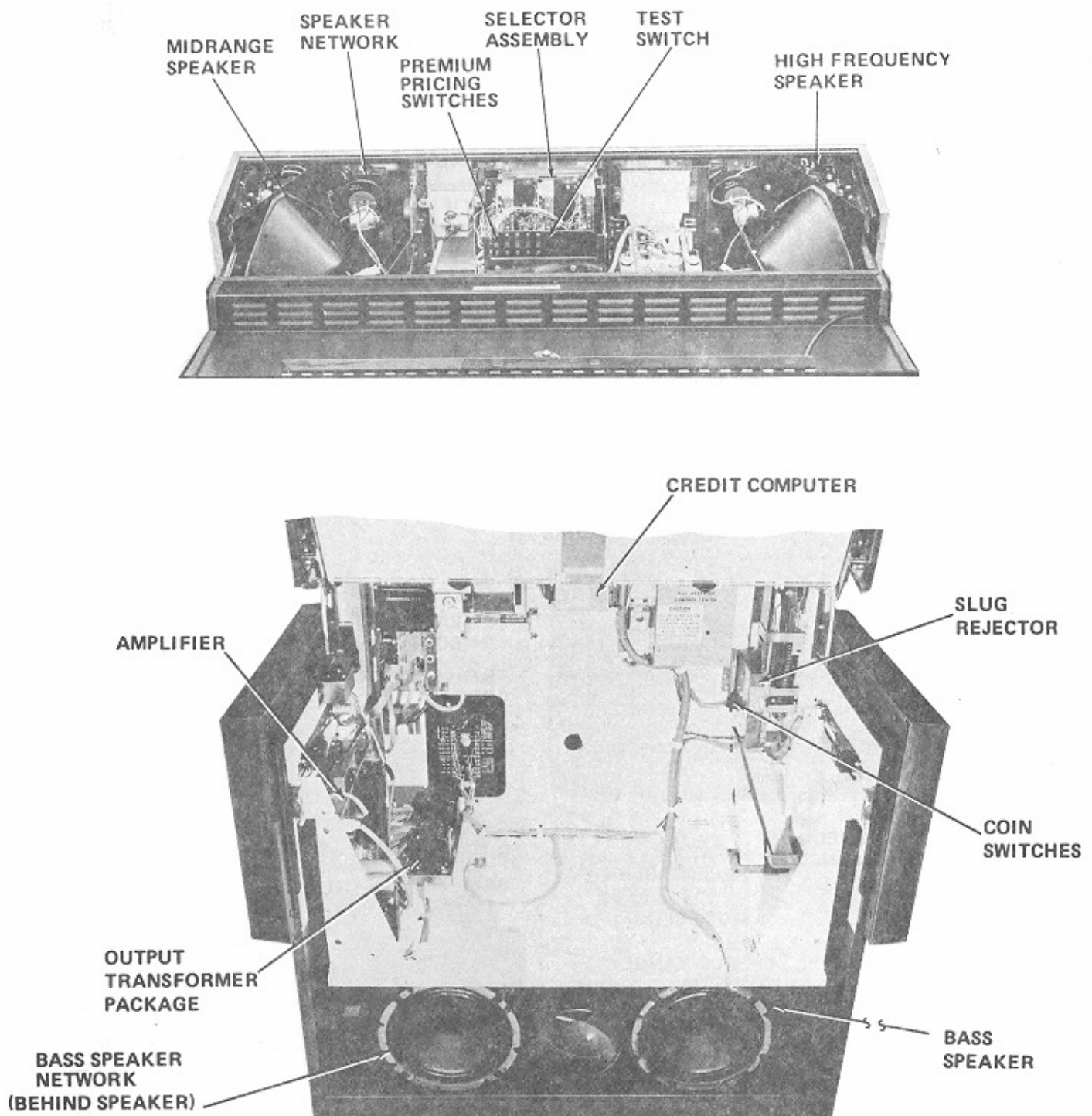


FIGURE 4-5. CREDIT SYSTEM AND SOUND SYSTEM COMPONENTS

From the treble range circuit, the signal is applied to the bass boost circuit consisting of Q5L, Q6L, Q7L, Q8L, and Q9L. The signal at the junction of C13L and C14L is divided and controlled by the volume control potentiometer setting. The amount of signal is controlled by the current passing through D1L, D2L, D3L, and D4L. The divided signal is coupled to the base of Q5L through C15L and to the base of Q7L through C17L. Q5L, Q6L, and Q7L, Q8L are two identical amplifier stages. The collector output of Q6L and Q8L are joined together at the base of Q9L. The amount of bass boost is controlled by the setting of the bass switch at C19L, C20L, or C21L. Potentiometer R41 is a factory-set clip adjustment.

64 Watt Amplifier. (See Schematic, page 6-11). The 64 watt power amplifier features fully protected output stages. The two driver boards, one for each audio channel, plug in for ease of replacement and are completely interchangeable between channels or in other 64 watt amplifiers.

The preamplifier output arrives at pin 3 of the amplifier and is fed to the base of Q7 through R28, C18, and C17. Q7 has two collector outputs. The left side output, as viewed on the schematic, is amplified from the base to collector of Q8. The signal from the collector of Q8 is fed to output devices Q1 and Q2.

Q1 and Q2 are mounted on a heat sink under the chassis. These complementary darlington devices, although more reliable than conventional designs, are fused to prevent damage to driver board components. See page 5- for troubleshooting and replacement data on these devices.

Transistor Q4 is part of the positive clamp circuit. Output device Q1 draws current through resistor R2. Q4 drops the base of output device Q1 to below R2, limiting current to a safe value. Q3 acts on the negative signal component in the same manner as positive clamp Q4.

Output Transformer Package (See figure 4-7). The transformer package enables the amplifier to operate 70-volt speaker lines for extension speakers, and provides Rowe/AMI Stereo Sound. The package consists of two output transformers, a power level control, and associated parts, mounted on a single chassis. The chassis sits on the floor of the cabinet, left of the mechanism. The unit is electrically connected between the amplifier and speaker system. Output transformer secondary connections are brought out to terminal strips to allow operation with low-impedance extension speakers. A 6-position switch, at the center of the chassis, controls phonograph speaker level relative to extension speaker level.

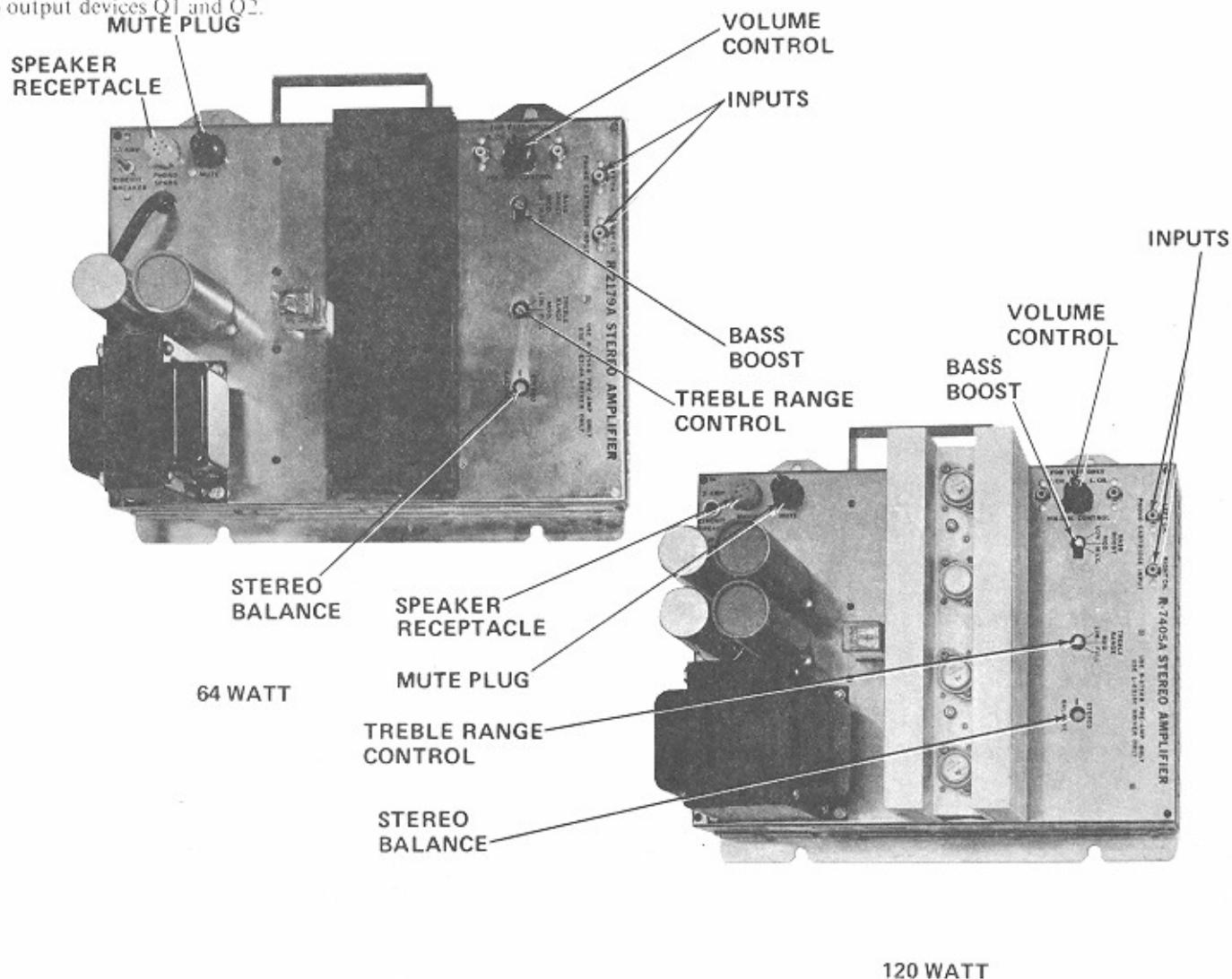


FIGURE 4-6. STEREO AMPLIFIERS COMPONENTS

Speaker System. The speaker system consists of two 10-inch low frequency speakers, two 6-inch mid-range speakers, two 3-inch tweeters for high frequencies, and coupling capacitors.

The 10-inch, heavy duty speakers are mounted in a duct-tuned enclosure at the bottom of the cabinet. The 6-inch mid-range speakers and the 3-inch tweeters are mounted at

the top of the cabinet.

Two-Wire Volume Control. A Rowe/AMI first, the two-wire volume control simplifies large, complex installations and saves cost. Redesigned preamplifier circuitry permits remote volume control operation using two unshielded wires. Any wires can be used - there are no special requirements for conductor size or shielding.

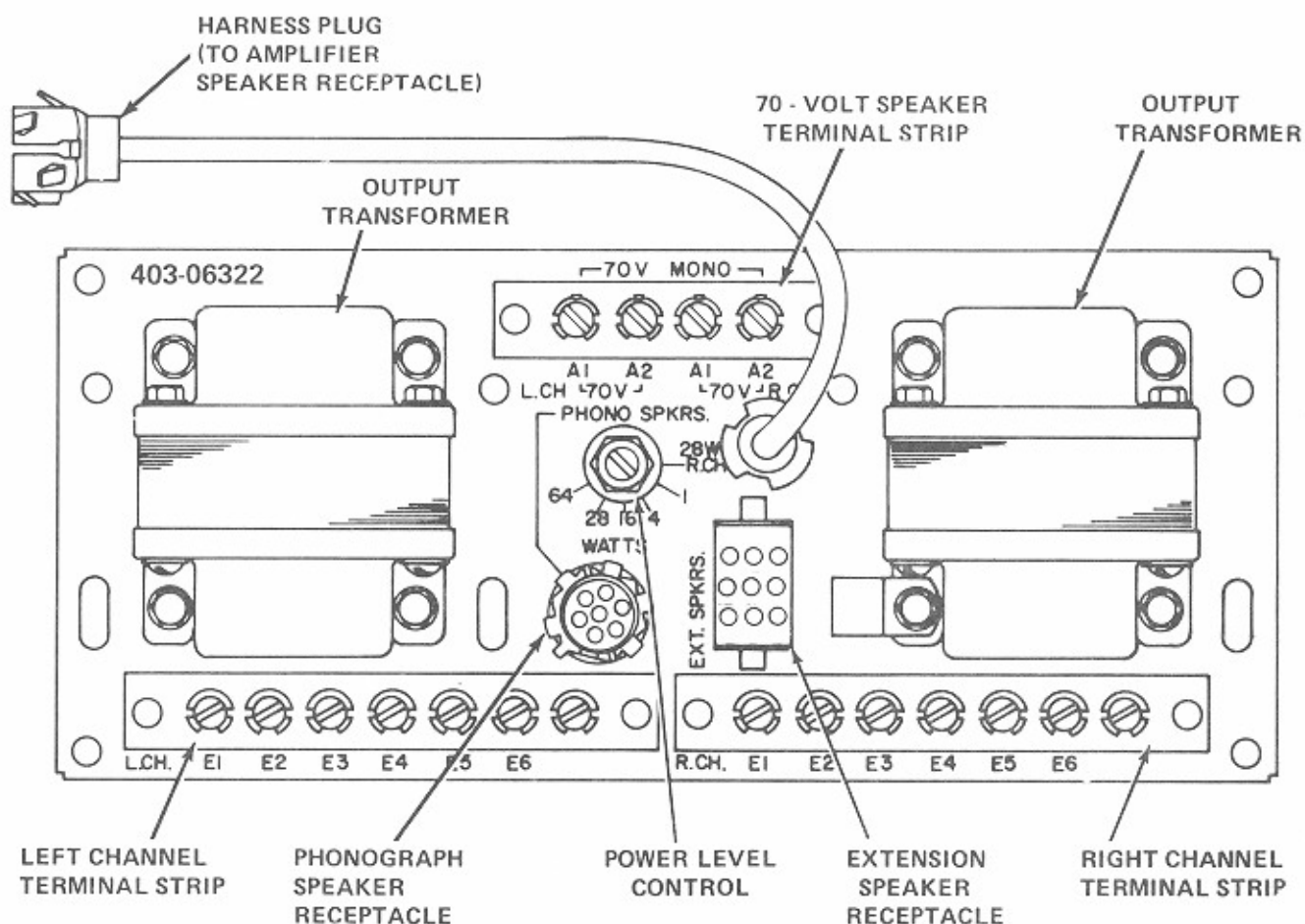


FIGURE 4-7. OUTPUT TRANSFORMER ACCESSORY PACKAGE

SECTION 5 - MAINTENANCE

GENERAL

This section contains cleaning, lubrication, adjustment, and repair and replacement procedures for the phonograph. Cleaning and lubrication procedures should be performed at regular intervals. Adjustment and repair and replacement procedures should be performed only when necessary.

PREVENTIVE MAINTENANCE

CLEANING

In addition to cleaning the cabinet exterior each time the location is visited, clean the cabinet 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 OF ANY TYPE ON 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.
4. Clean the slug rejector as specified in the applicable slug rejector manual.
5. Clean the search unit commutator board with alcohol. Remove caked-on dirt using a pencil eraser or light abrasive cleaner.

FIVE-YEAR LUBRICATION

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

- 6 One Drop F-1379 Light Machine Oil

Do Not Over - Lubricate

Do Not Use Oil or Grease on Solenoid Plungers.

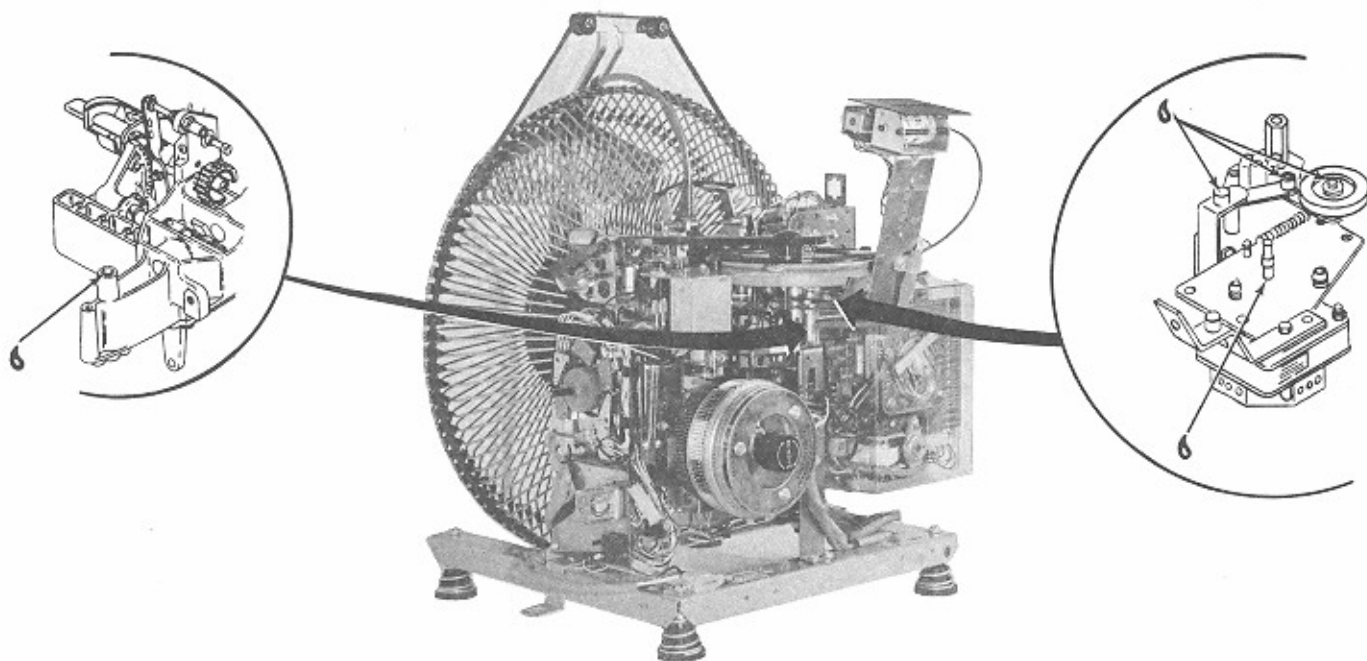


FIGURE 5-1 PHONOGRAPH LUBRICATION

ADJUSTMENTS

Phonograph adjustments are listed in Table 5-1. Amplifier adjustments are contained in Section 2. Perform adjustments when indicated by troubleshooting procedure, Section 4.

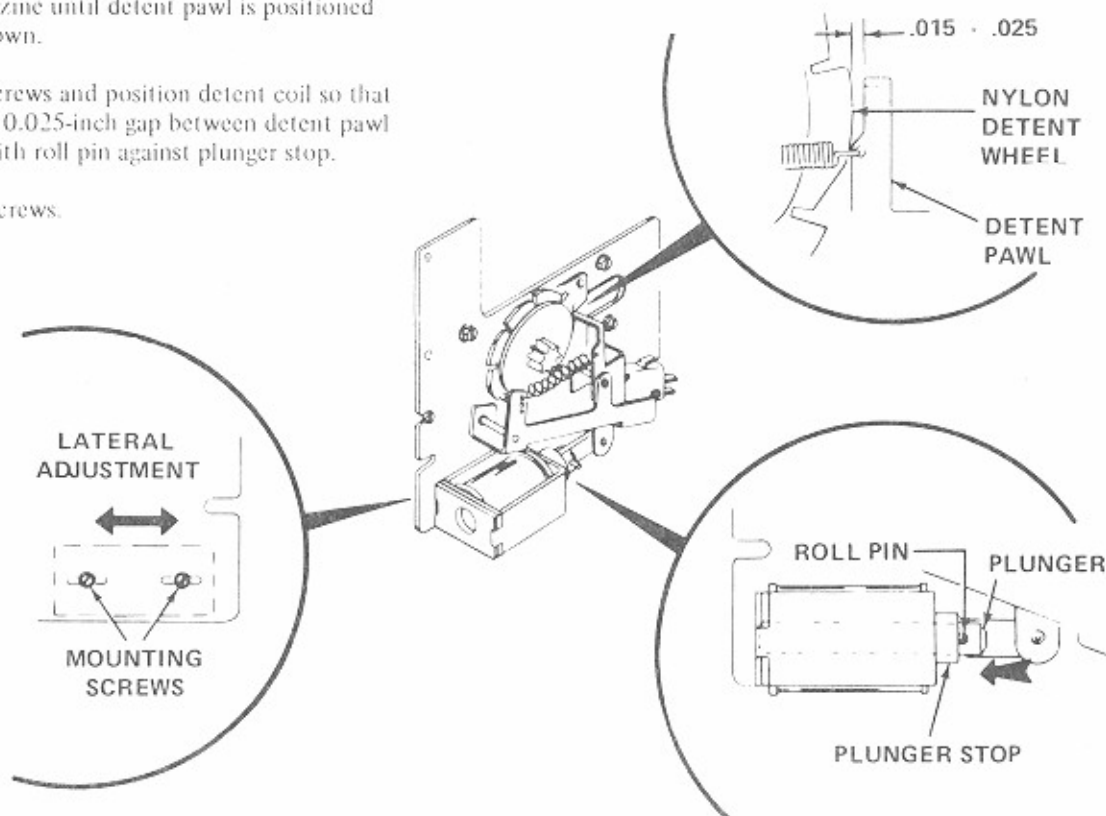
TABLE 5-1. PHONOGRAPH ADJUSTMENTS

<u>ADJUSTMENT</u>	<u>PAGE</u>
RECORD CHANGER MECHANISM	
Magazine Motor and Detent Assembly	5-3
Cam Switch	5-4
Stop Switch	5-5
Sector Gear	5-8
Tone Arm Cam	5-9
Cam and Trunnion Drive Gear	5-10
Toggle Shifter Link	5-10
Record Magazine Transfer Arm Support	5-11
Magazine Belt	5-12
Aligning Magazine Stopping Position with Transfer Arm	5-13
Popularity Meter Alignment	5-14
Scan Control	5-15
Tone Arm	5-16
Automix	5-19
SEARCH UNIT	
Search Unit Gear	5-20
Sprag Relay	5-22
Search Wiper	5-25
Select Coil	5-27
CREDIT AND PRICING SYSTEM	
Coin Switch	5-28

MAGAZINE MOTOR AND DETENT ASSEMBLY ADJUSTMENTS

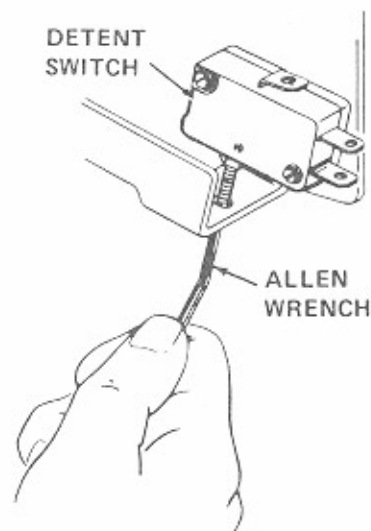
Obtain 0.015 To 0.025 – Inch Gap Between Detent Pawl And High Point Of Detent Wheel.

1. Release detent pawl from detent wheel.
2. Rotate record magazine until detent pawl is positioned on high point as shown.
3. Loosen mounting screws and position detent coil so that there is an 0.015 to 0.025-inch gap between detent pawl and detent wheel with roll pin against plunger stop.
4. Tighten mounting screws.



Adjust Magazine Detent Switch.

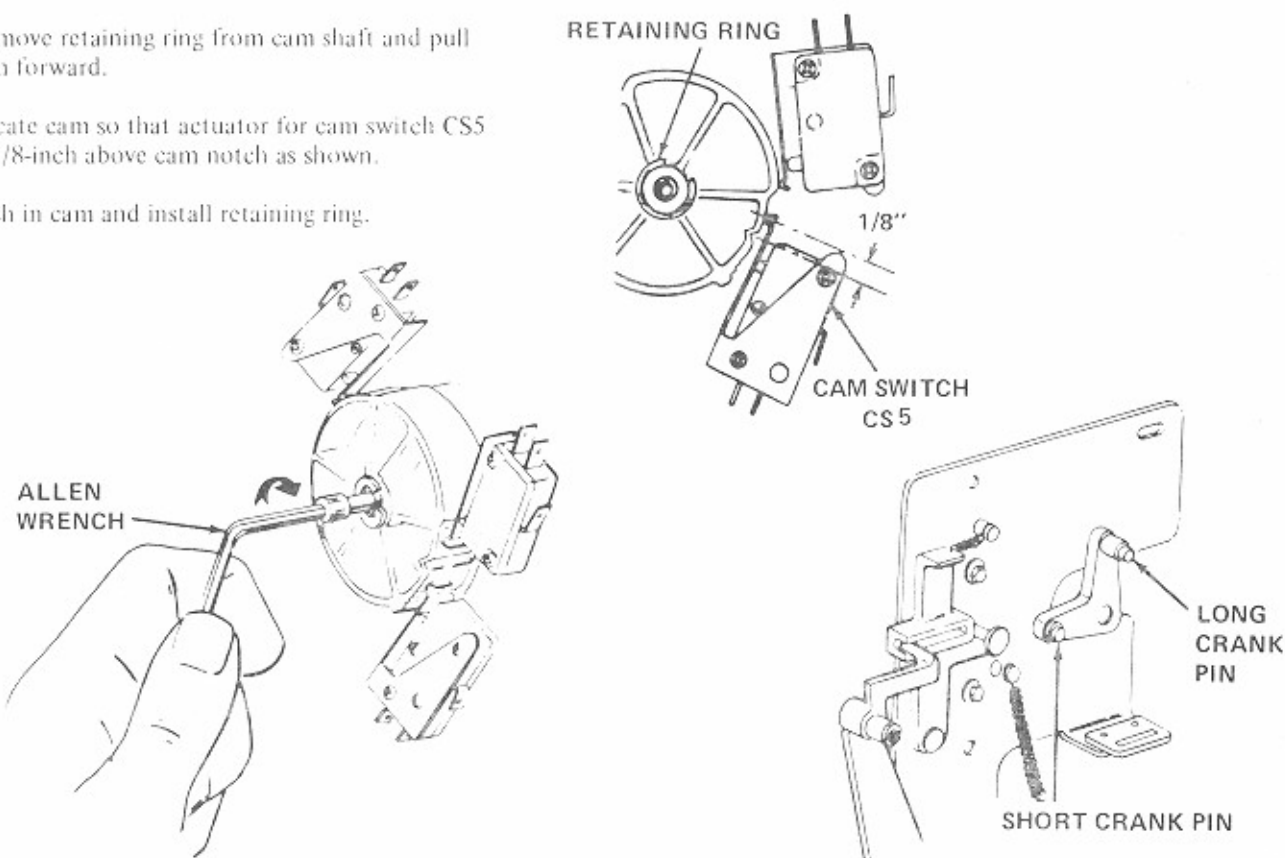
1. Rotate detent wheel until pawl is seated in notch, locking wheel in place.
2. Turn detent switch actuating screw in until switch just clicks, then turn screw in $1/2$ turn more for stable adjustment.



CAM SWITCH ADJUSTMENTS

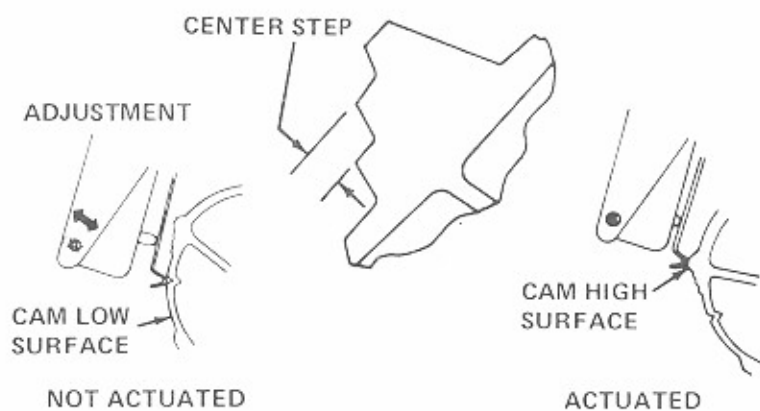
Locate Cam In Proper Position

1. Using a 5/32" allen wrench, turn transfer motor clockwise until long pin arm on crank is in vertical position.
2. Remove retaining ring from cam shaft and pull cam forward.
3. Locate cam so that actuator for cam switch CS5 is 1/8-inch above cam notch as shown.
4. Push in cam and install retaining ring.



Check And Adjust Cam Switch Operation

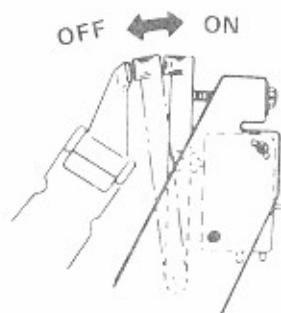
1. Check that each cam switch operates (on and off) within center cam step.
2. To adjust a switch, loosen mounting screw closest to actuator end and move switch housing accordingly.
3. Tighten mounting screw and recheck operation.



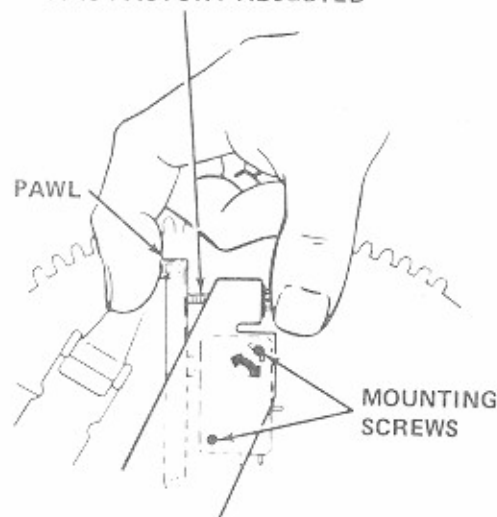
STOP SWITCH ASSEMBLY ADJUSTMENTS

Adjust Left Side Switch

1. Hold pawl against stop screw using thumb and forefinger
2. Loosen mounting screw nearest stop screw and move switch against pawl as far as it will go.
3. Tighten mounting screw.
4. Release pawl and stop screw, check that switch releases.
5. If switch does not release, loosen mounting screw and adjust switch position so that it actuates and releases as pawl is moved back and forth.

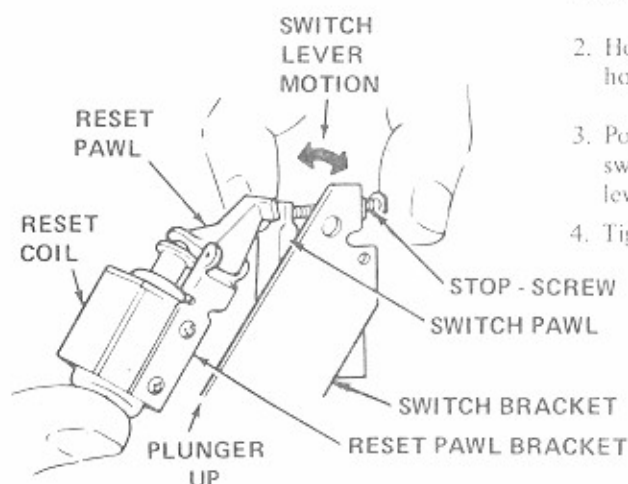


**NOTE: DO NOT TRY TO ADJUST STOP-SCREW
IT IS FACTORY ADJUSTED**



Adjust Reset Coil.

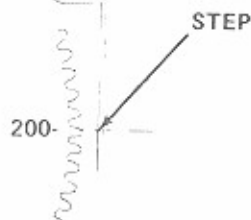
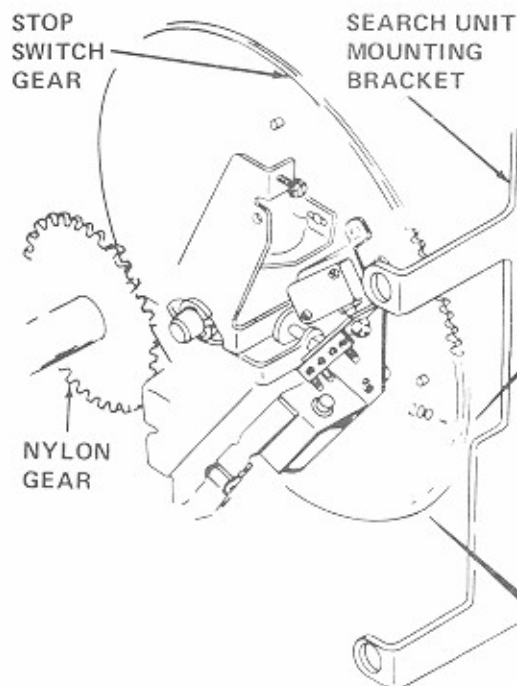
1. Loosen screws holding reset pawl bracket.
2. Hold reset coil plunger flush with bottom of coil, and hold left side switch pawl against stop screw.
3. Position reset pawl bracket so tips of reset pawl and switch pawl will just miss each other as stopping switch lever is pivoted through its entire range of motion.
4. Tighten screws and recheck switch operation.



S TOP SWITCH ASSEMBLY ADJUSTMENTS (CONTINUED)

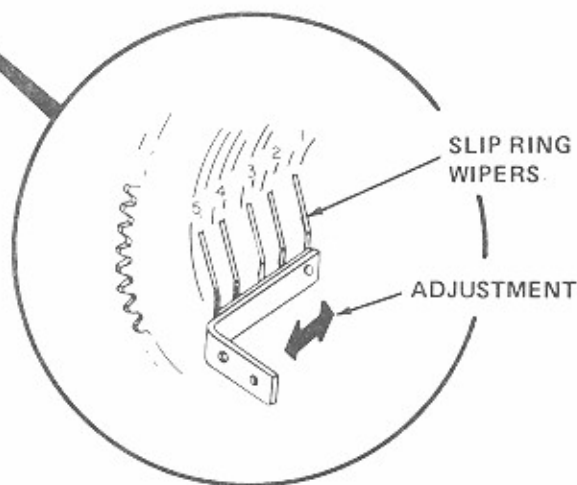
Align Stop Switch

1. Lock magazine at selection A1. (Rotate the magazine until selection A1 is at top center. Engage the detent, locking the magazine in place.



2. Mesh the stopping switch gear with the large nylon gear so that the 200 index mark on the stopping switch gear is in line with the step on the search unit mounting bracket.

3. Check to see that the slip ring wipers are properly aligned with their respective slip rings. If necessary loosen the slip ring wiper assembly horizontally until the ends of the wipers are tracking in the center of the rings.



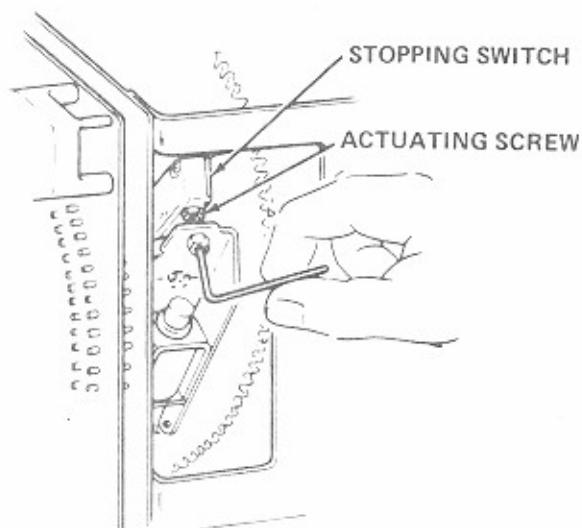
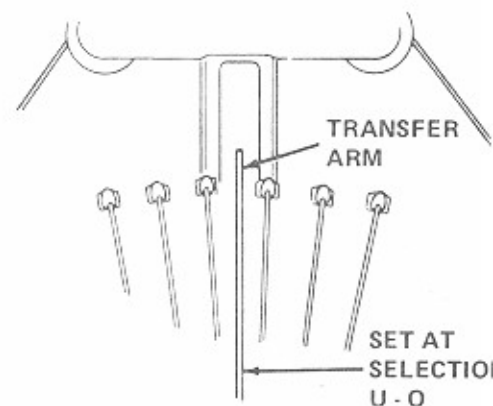
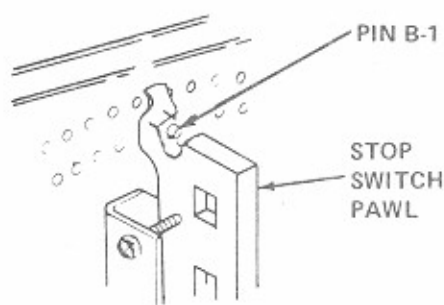
NOTE: WHEN INSTALLING A REPLACEMENT STOP SWITCH BE SURE TO PERFORM THE PROCEDURES ON THE FOLLOWING PAGE.

STOP SWITCH ASSEMBLY ADJUSTMENTS (CONTINUED)

Adjust Stop Switch Actuating Screw

NOTE: THIS ADJUSTMENT REQUIRES THAT THE SEARCH UNIT IS PROPERLY ADJUSTED

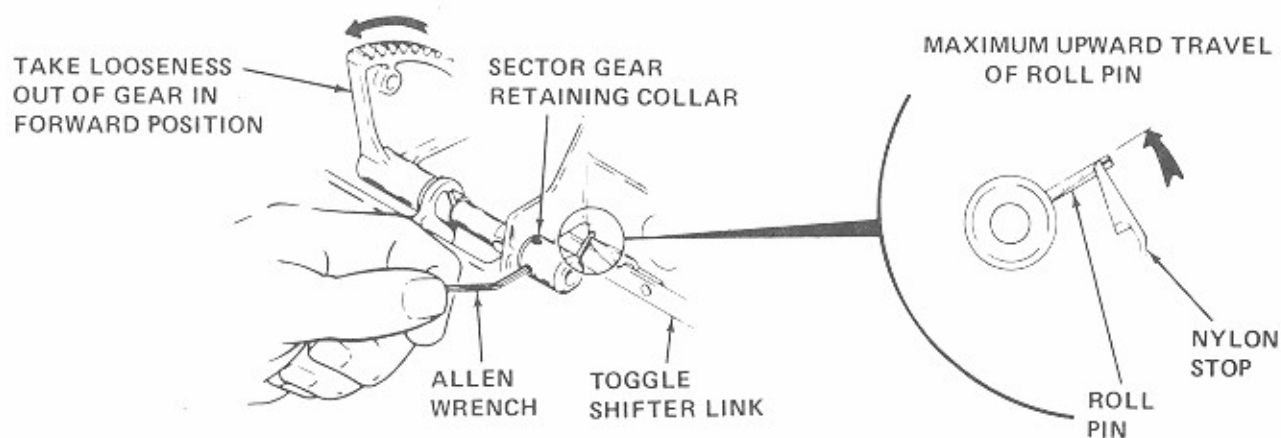
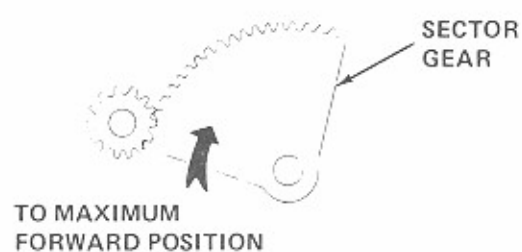
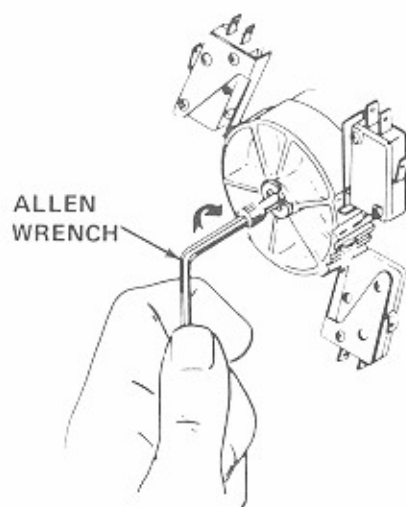
1. Manually rotate record magazine and lock in position at selection U-O.
2. Manually set search unit at pin B1.
3. Locate stop switch pawl on pin B1 as shown.
4. Back stopping switch actuating screw out past the point where switch clicks (releases).
5. Turn stopping switch actuating screw in until switch just clicks (actuates); then turn screw in 1-2/3 turn further.
6. Turn on mechanism service switch and cycle record changer at least twice to check stopping switch adjustment.



SECTOR GEAR ADJUSTMENTS

Adjust The Sector Gear Retaining Collar

1. Using a 5/32-inch allen wrench, turn transfer motor shaft clockwise until sector gear is in maximum up, or forward position.
2. Set retaining collar so that roll pin is flush with top surface of toggle shifter link nylon stop. Take all looseness out of sector gear in forward direction.
3. Check that there is no end play in sector gear shaft.

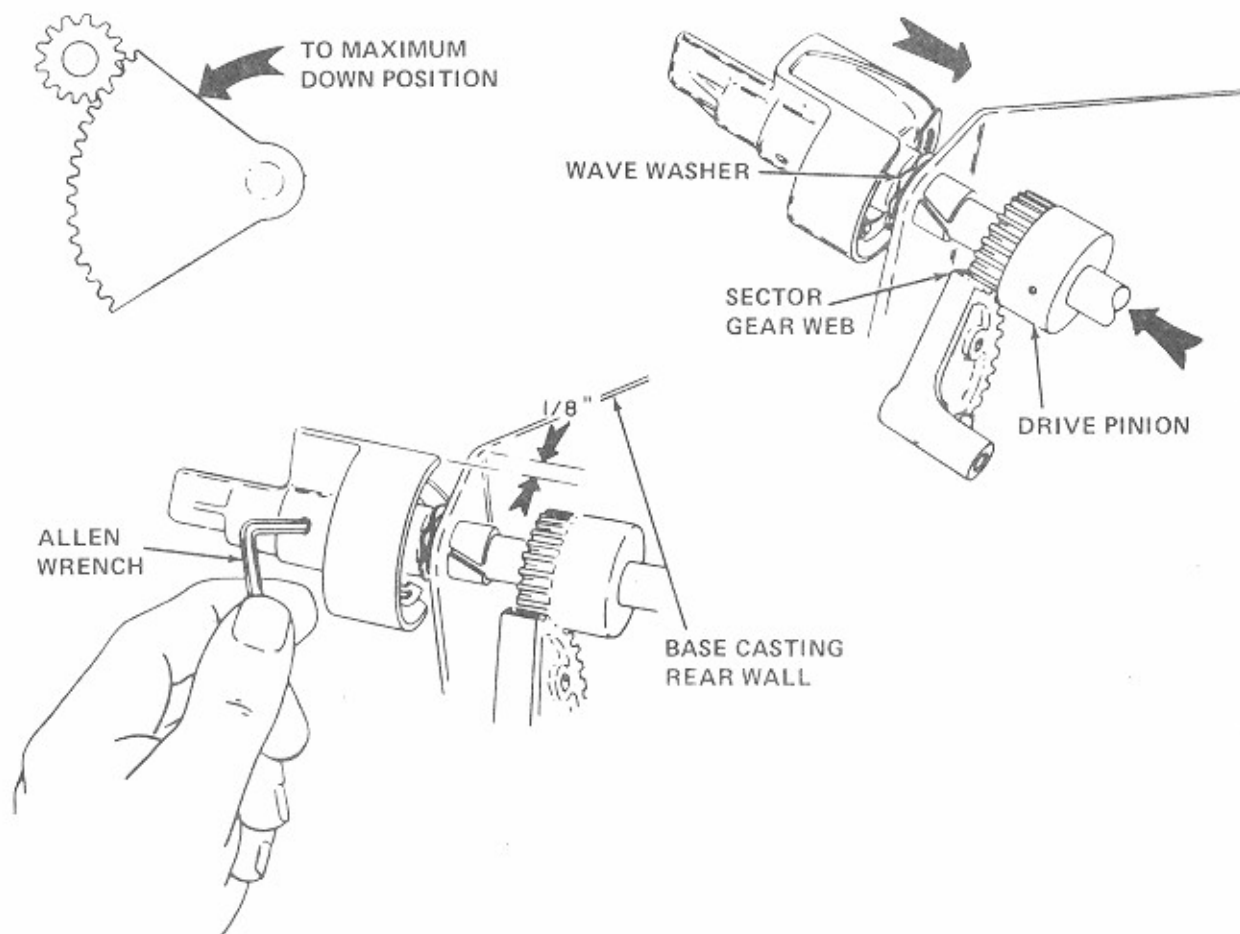


TONE ARM CAM ADJUSTMENTS

Adjust Tone Arm Cam

1. Using a 5/32-inch allen wrench, turn transfer motor shaft clockwise
2. Loosen allen screws and position tone arm cam so straight cutout in cam surface is 1/8-inch from base casting rear wall front surface plane. Use a 1/8-inch allen wrench to gauge this distance.
3. Remove end play from shaft and tighten allen screws.

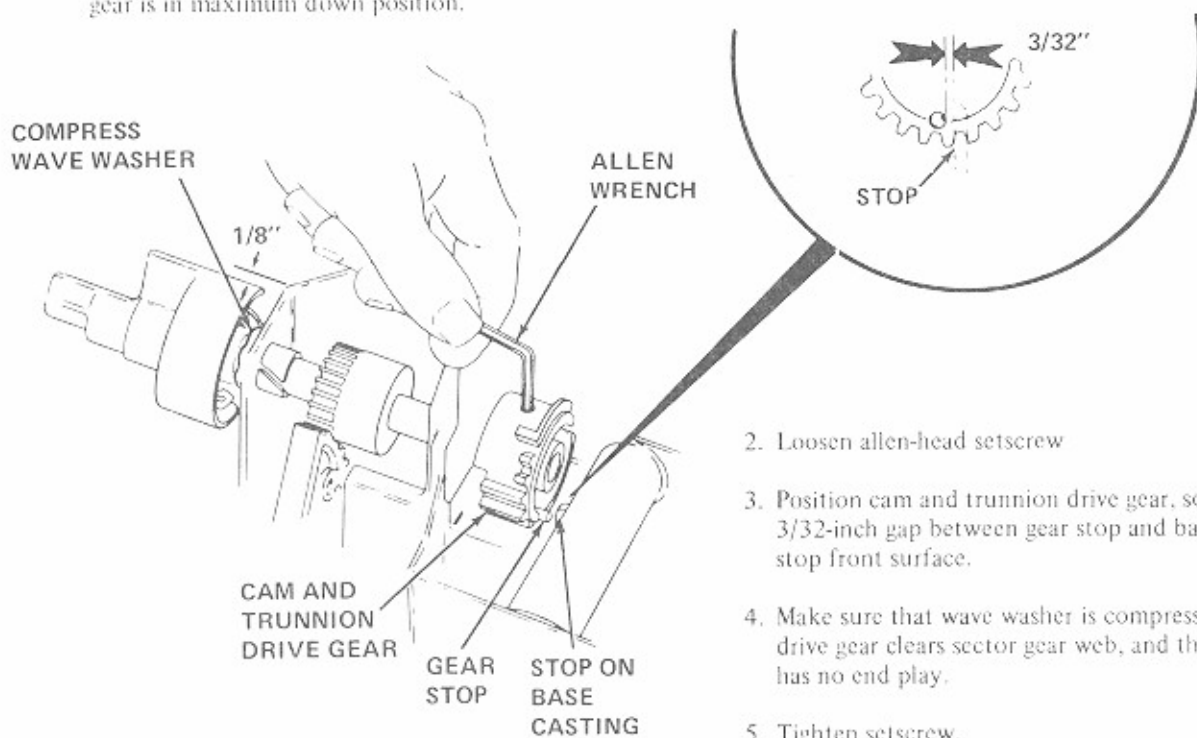
NOTE: PINION GEAR TEETH MUST NOT RIDE ON SECTOR GEAR WEB.



CAM AND TRUNNION DRIVE GEAR ADJUSTMENT

Adjust Cam And Trunnion Drive Gear

1. Using a 5/32-inch allen wrench, turn transfer motor shaft clockwise until sector gear is in maximum down position.

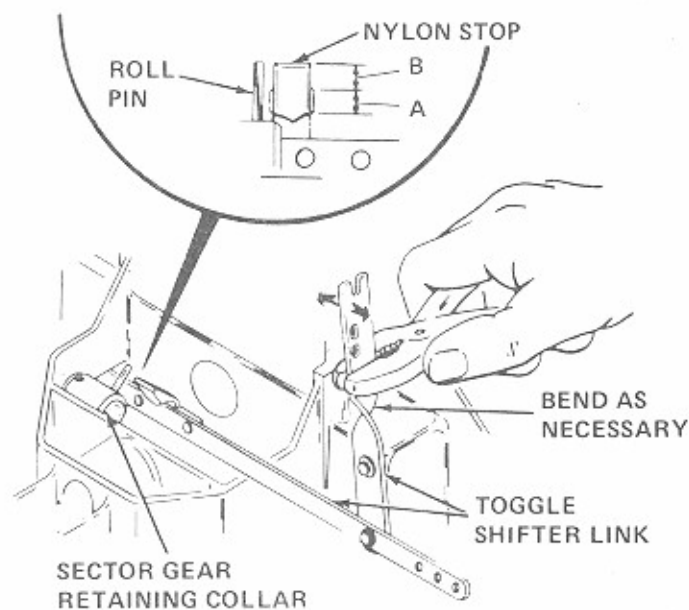


2. Loosen allen-head setscrew
3. Position cam and trunnion drive gear, so there is a 3/32-inch gap between gear stop and base casting stop front surface.
4. Make sure that wave washer is compressed, that drive gear clears sector gear web, and that shaft has no end play.
5. Tighten setscrew.

TOGGLE SHIFTER LINK ADJUSTMENT

Adjust Toggle Shifter Link

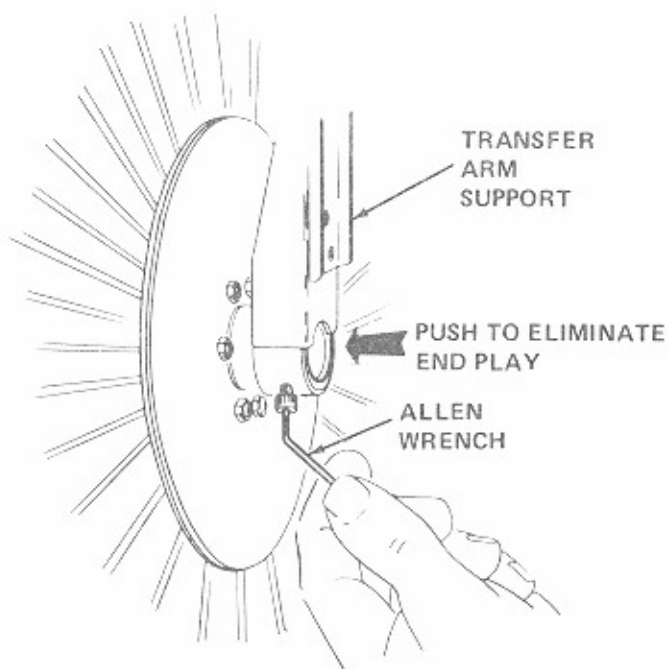
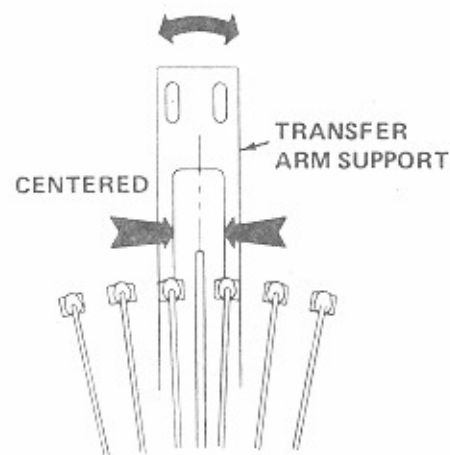
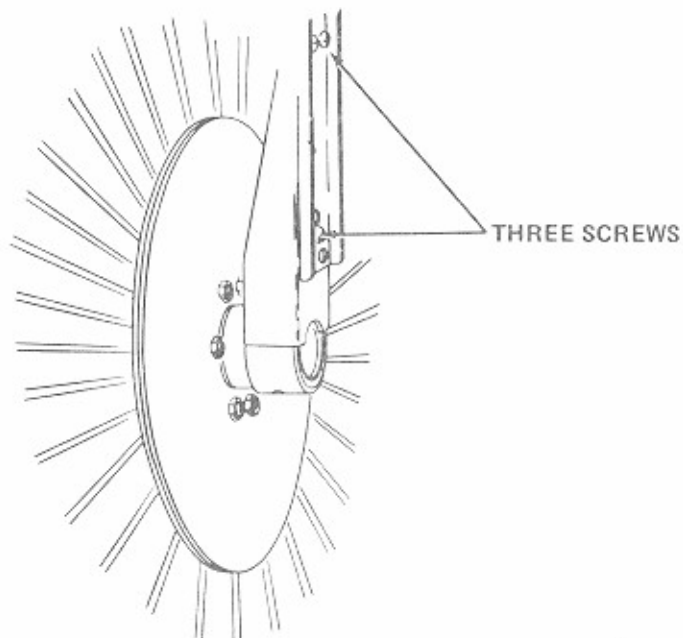
1. Bend toggle shifter link vertical member so sector gear retaining collar roll pin will contact nylon stop in area "A", but not area "B" as transfer motor cycles.
2. Check adjustment with toggle shifter pins in both positions.



RECORD MAGAZINE TRANSFER ARM SUPPORT ADJUSTMENT

Eliminate Magazine End Play And Center Transfer Arm Support

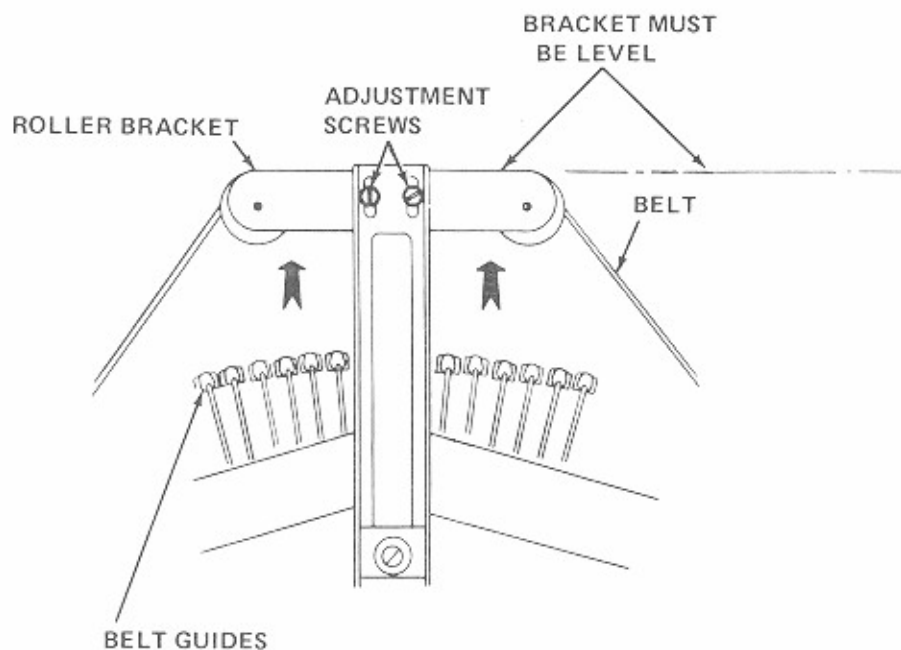
1. Loosen setscrews in transfer arm support.
2. Push transfer arm support onto magazine shaft to eliminate end play and adjust it so transfer arm will not rub on either side of opening.
3. Tighten screws.
4. If slight adjustment is necessary after setscrews are seated, loosen three screws on rear of transfer arm support, adjust, and tighten screws.



MAGAZINE BELT ADJUSTMENT

Tighten Magazine Belt

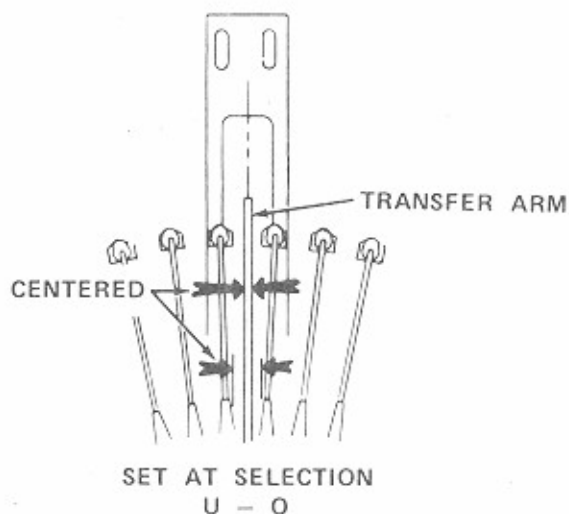
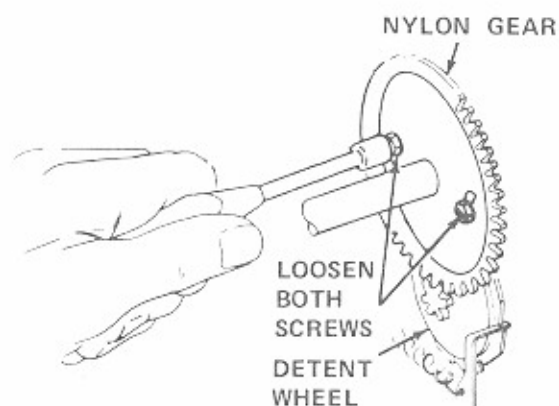
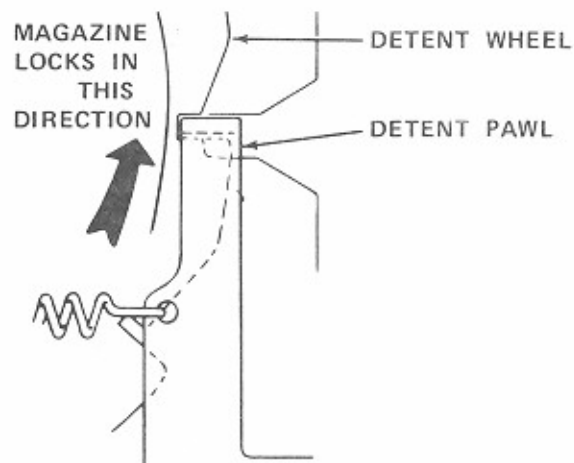
1. Loosen two adjustment screws shown.
2. Raise bracket to tighten belt around magazine.
3. Check that belt rides evenly in center of belt guides, all the way around the magazine.



ALIGNING MAGAZINE STOPPING POSITION WITH TRANSFER ARM

Align Stopping Position Of Magazine With Transfer Arm

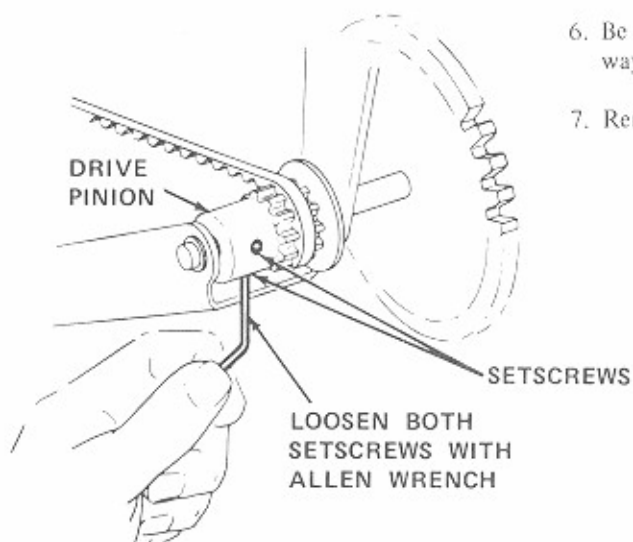
1. Rotate magazine until selection is at top center. Allow magazine detent to engage and lock magazine in place.
2. Loosen two screws in large nylon gear.
3. With detent wheel locked, move magazine until transfer arm is centered in record slot.
4. Tighten two screws in large nylon gear securely.



POPULARITY METER ALIGNMENT

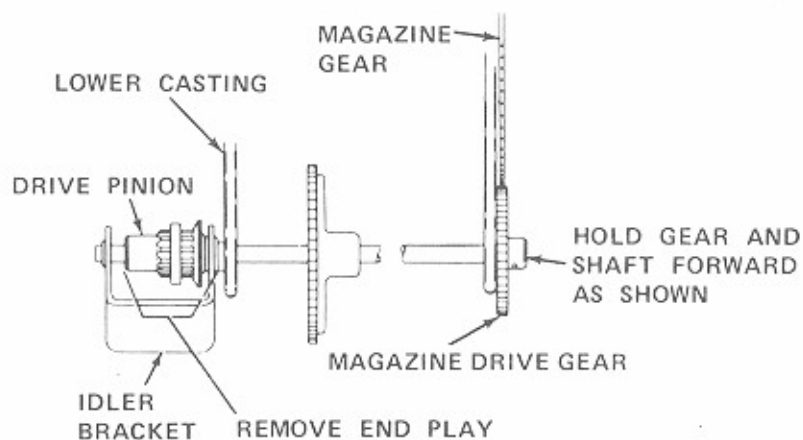
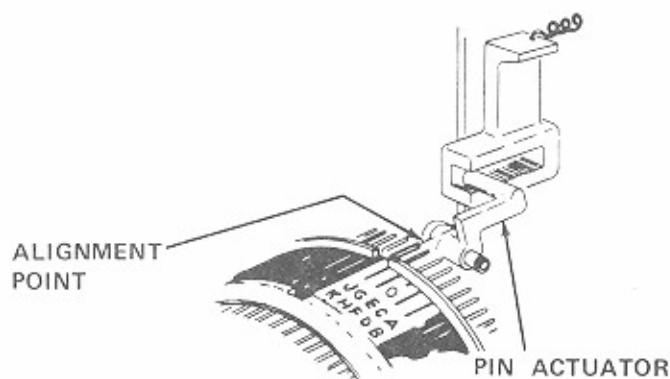
Align Popularity Meter

1. Remove popularity meter.
2. Loosen setscrews in popularity meter drive pinion.
3. Release magazine detent. Rotate magazine until selection U-O is at top center.
4. Allow detent to engage, locking magazine in place.
5. Install popularity meter and rotate until pin marked U-O is centered over pin actuator.



6. Be sure that crank is properly aligned and that popularity meter is all the way on the shaft.

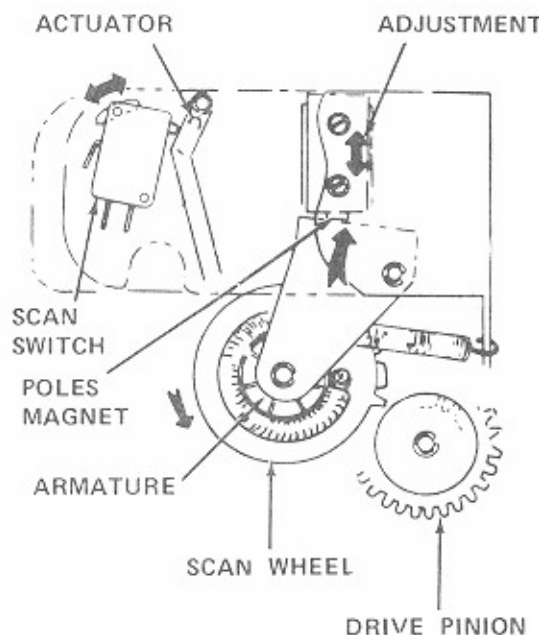
7. Remove all end play. Tighten two setscrews.



SCAN CONTROL ADJUSTMENTS

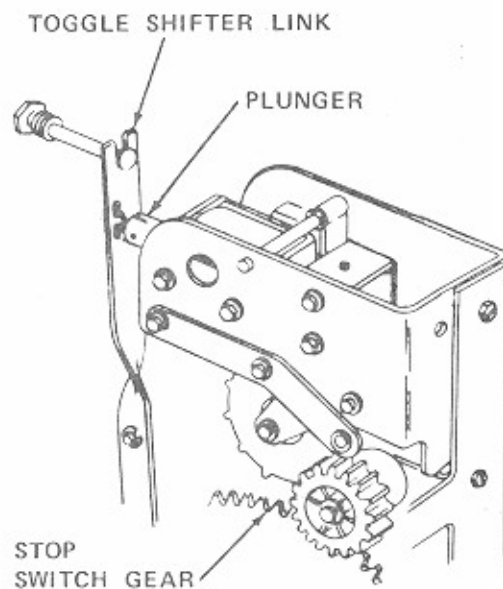
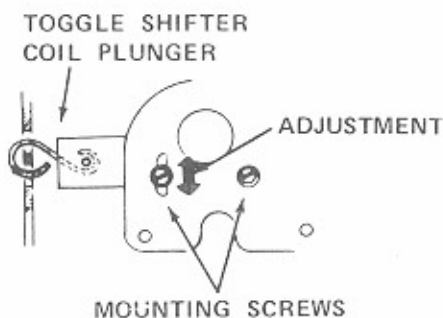
Adjust Scan Control

1. Rotate magazine until scan wheel is in maximum counterclockwise position as shown.
2. Loosen scan switch top mounting screw.
3. Move switch against actuator until switch has operated, and switch button is almost bottomed.
4. Tighten top mounting screw.
5. With armature held against magnet pole pieces, scan wheel should barely clear drive pinion. Rotate scan wheel one full turn to check this adjustment.



Adjust Toggle Shifter Coil

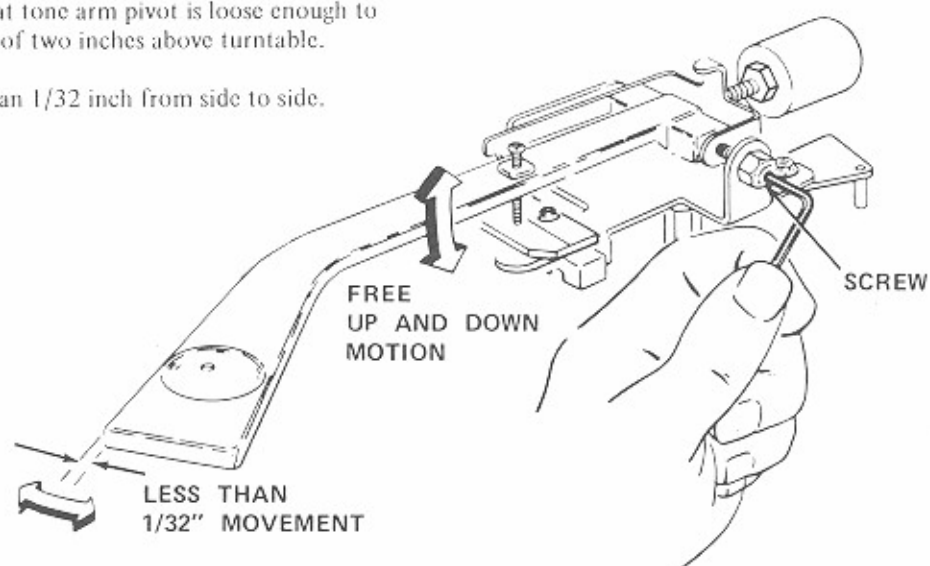
1. Loosen two mounting screws for toggle shifter coil.
2. Adjust coil until it is level and plunger mover freely in and out.
3. Make sure that drive pinion is meshed properly with stop switch gear.
4. Tighten two screws.



TONE ARM ADJUSTMENTS

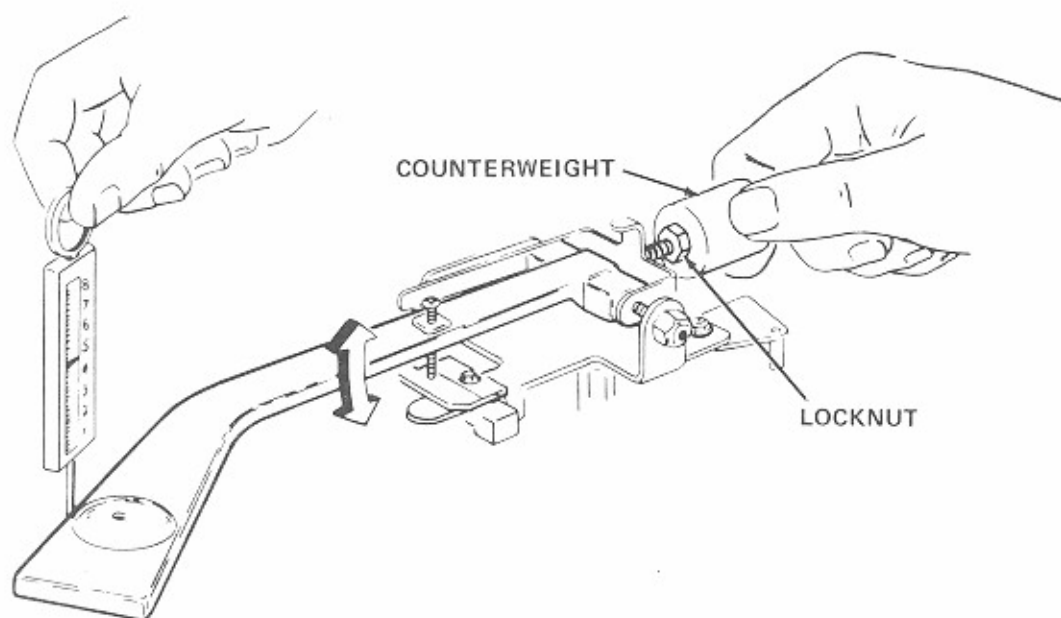
Adjust Vertical Pivot

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



Set Stylus Force

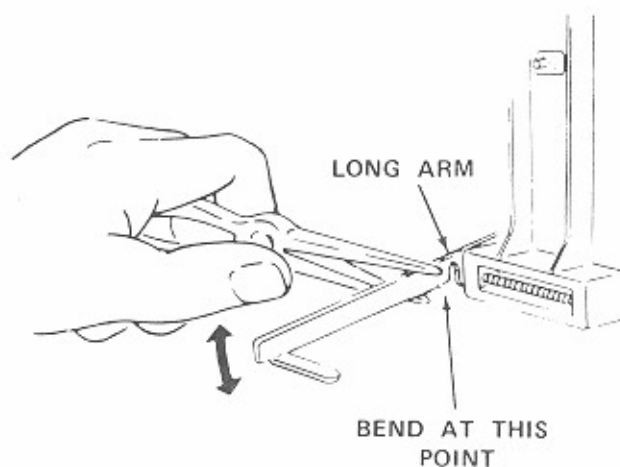
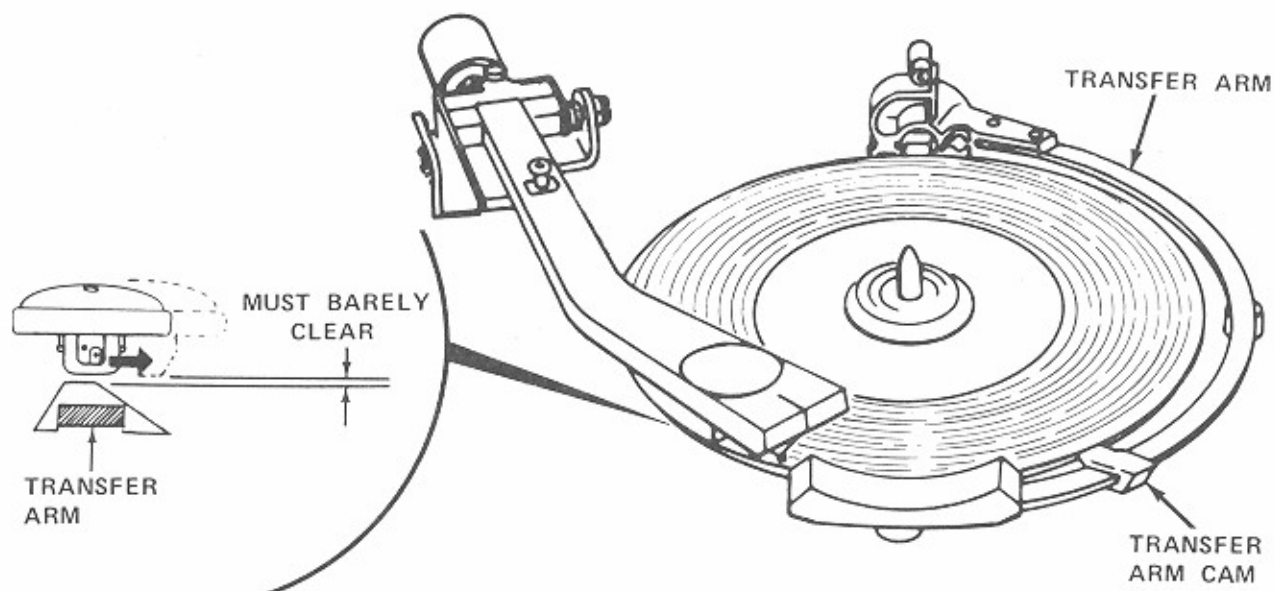
1. Loosen lock nut.
2. Attach a suitable gram gauge to tone arm as shown. Adjust counterweight for 4 to 5 grams pressure.
3. Tighten lock nut against counterweight and recheck adjustment.



TONE ARM ADJUSTMENTS (CONTINUED)

Set Stylus Clearance

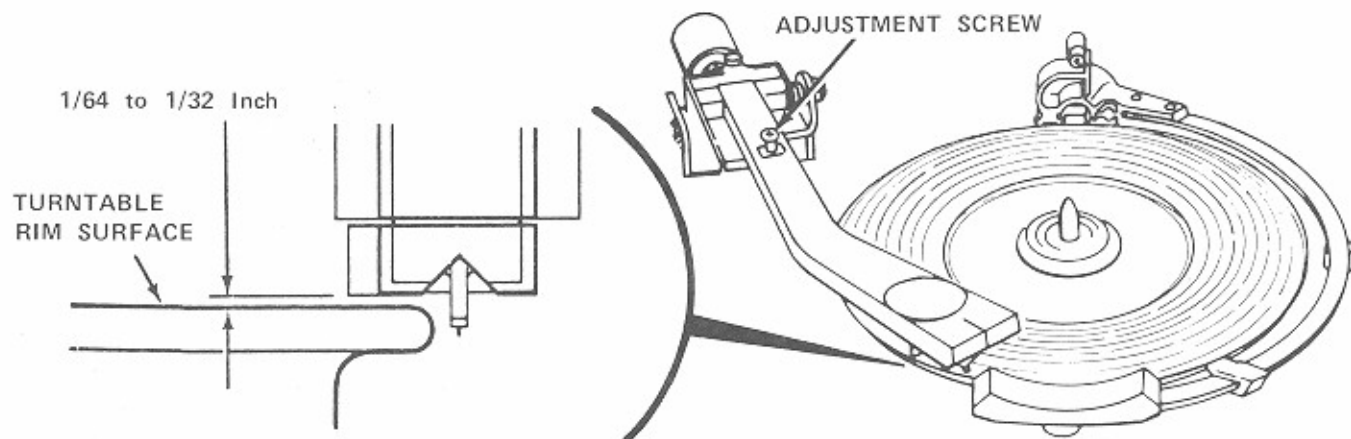
1. Operate transfer assembly to place transfer arm next to tone arm.
2. Stylus must barely clear transfer arm as tone arm swings over it. Adjust clearance by bending long arm of tone arm rest, as necessary, at point shown.



TONE ARM ADJUSTMENTS (CONTINUED)

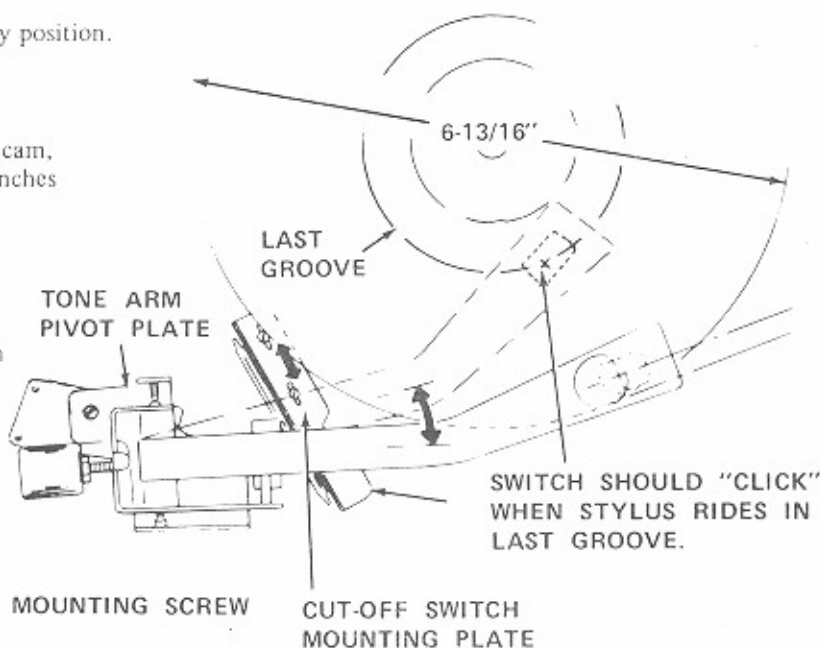
Set Stylus Height

1. Operate transfer assembly to position tone arm over turntable rim.
2. Turn adjustment screw until stylus tip is $1/32$ inch below rim surface with tone arm in play position.



Set Stylus Setdown Position And Tone Arm Cutoff Switch

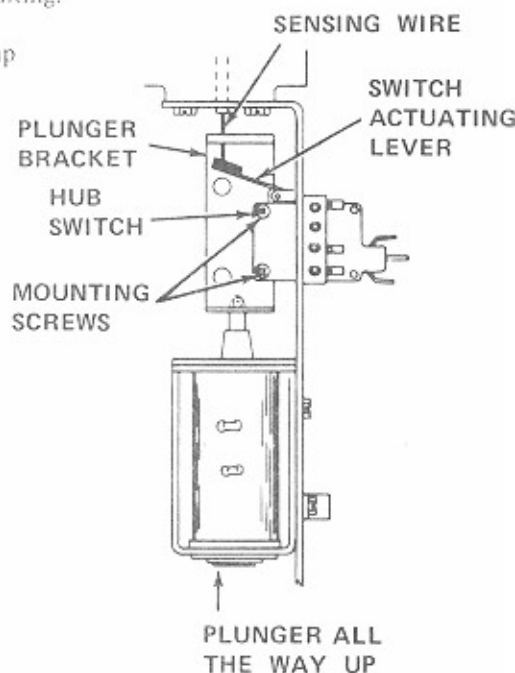
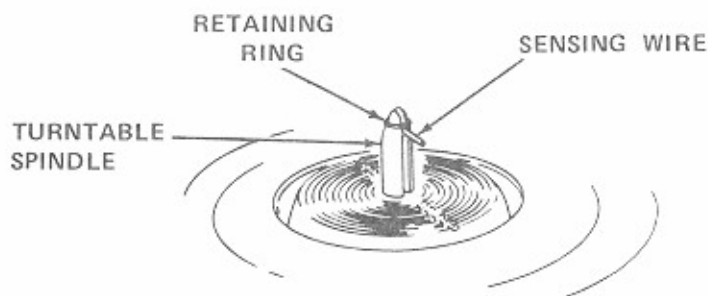
1. Place undersize ($6-13/16$ -inch diameter) record on turntable.
2. Operate transfer assembly to bring tone arm to play position.
3. Loosen mounting screw.
4. While holding cam follower plate against tone arm cam, move tone arm, as required, until stylus is $2-9/16$ inches from the turntable hub.
5. Tighten mounting screw and check adjustment.
6. Locate tone arm stylus in record cutout groove.
7. Loosen two mounting screws on cutoff reed switch mounting plate.
8. Position mounting plate, as necessary until reed switch is closed. The magnet on the under side of the tone arm operates before stylus enter "closed" record groove.



AUTOMIX ADJUSTMENTS

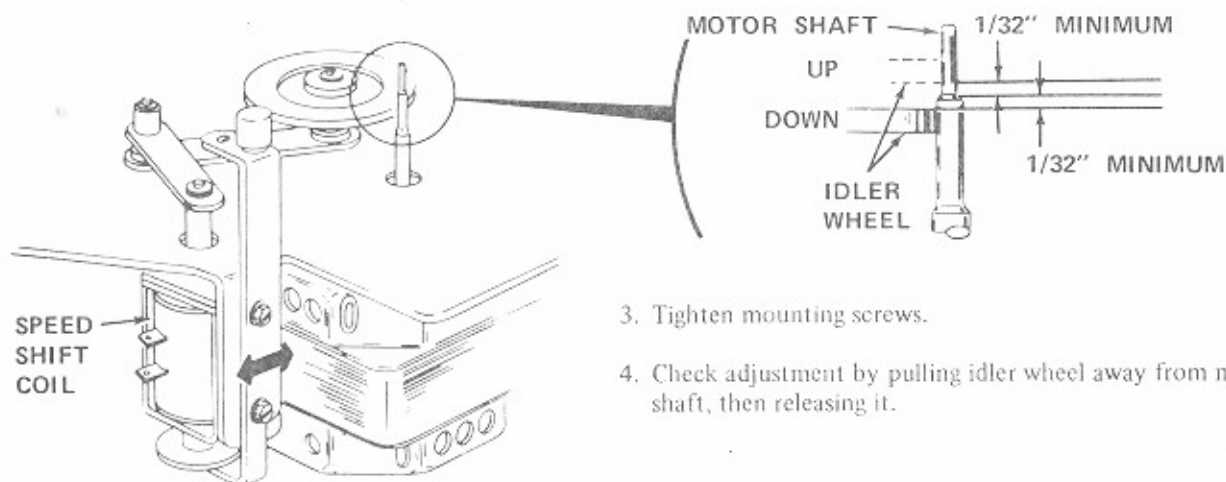
Obtain 1/32-inch Gap Between Sensing Wire And Turntable Spindle Retaining Ring

1. Loosen mounting screws and move hub switch down as far as slotted mounting.
2. While holding plunger all the way up, raise hub switch until a 1/32-inch gap exists between sensing wire and turntable spindle retaining ring.
3. Tighten switch mounting screws.



Adjust Speed Shift Coil So That Idler Wheel Rim Clears Motor Shaft Step By At Least 1/32 Inch

1. Loosen speed shift coil mounting screws.
2. Adjust speed shift coil so that idler wheel ring clears motor shaft step by at least 1/32 inch in both full up and full down coil plunger position. The coil frame will pivot slightly about the top mounting screw hole, just enough to allow up and down adjustment of the idler linkage.

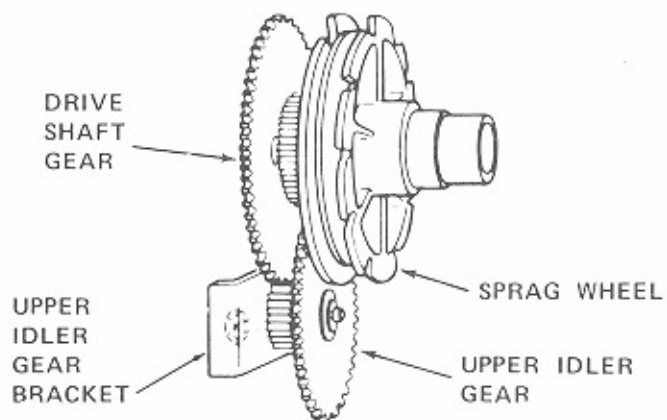
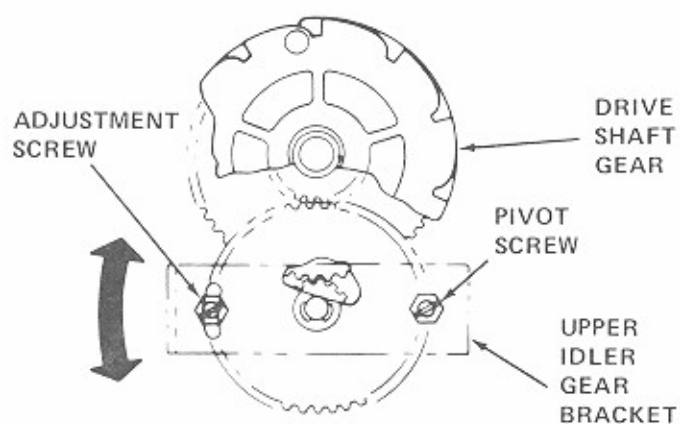


3. Tighten mounting screws.
4. Check adjustment by pulling idler wheel away from motor shaft, then releasing it.

SEARCH UNIT GEAR ADJUSTMENT

Mesh Drive Shaft Gear, Upper Idler Gear, And Sprag Wheel Pinion

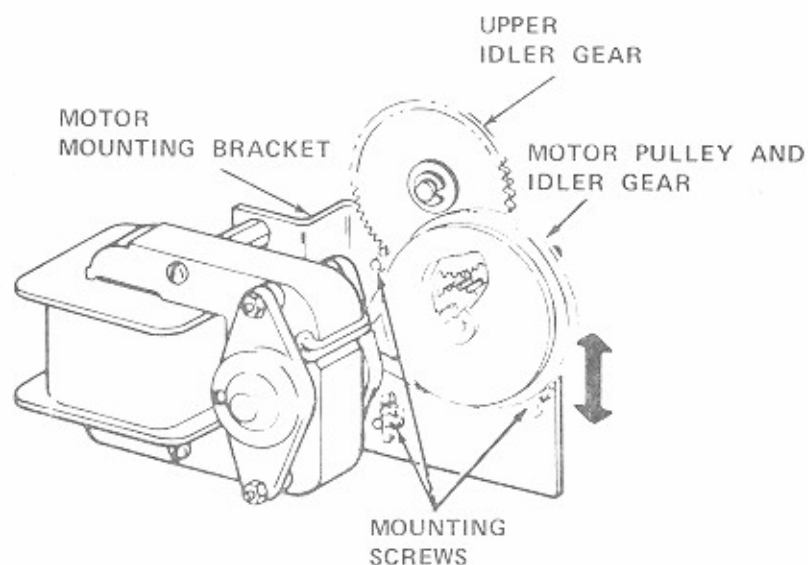
1. Loosen upper idler gear bracket pivot screw and adjustment screw.
2. Pivot bracket, as shown, until all gears move freely with a minimum of backlash.
3. Tighten screws and recheck adjustment.



SEARCH UNIT GEAR ADJUSTMENTS (CONTINUED)

Align Motor Idler Gear To Upper Idler Gear

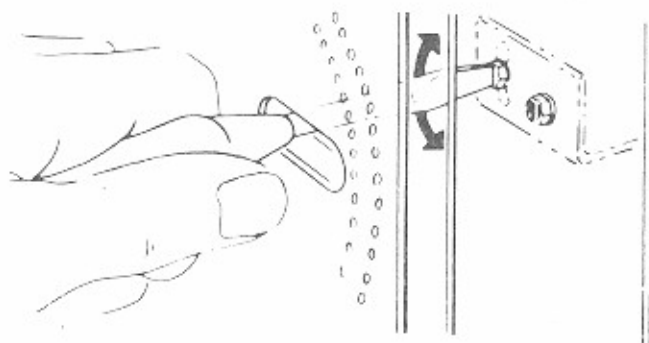
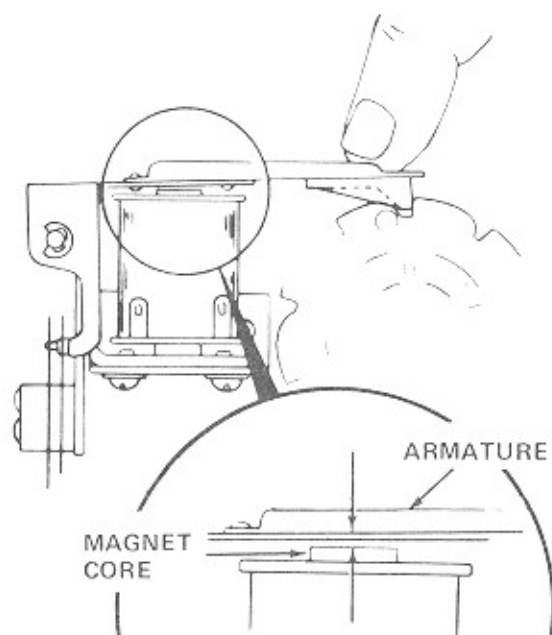
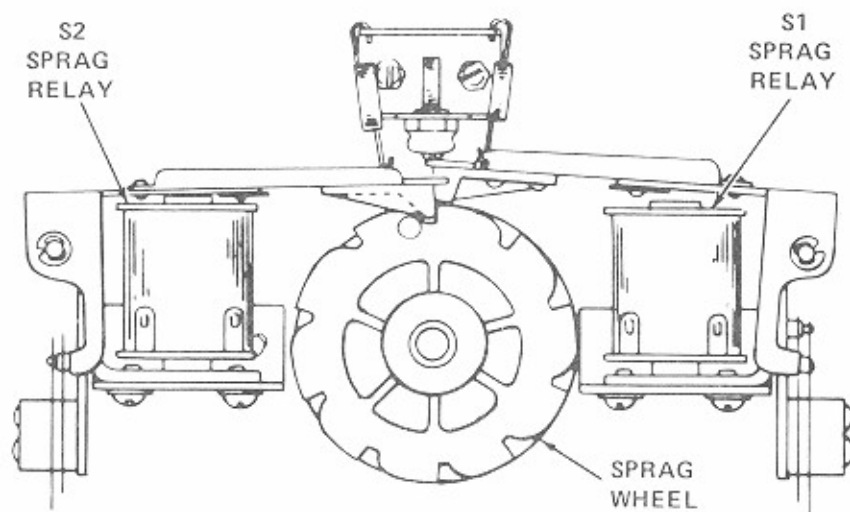
1. Loosen three motor mounting screws in motor mounting bracket.
2. Move motor assembly as shown until motor meshes with upper idler gear without binding and with minimum backlash.
3. Tighten screws and recheck adjustment.



SPRAG RELAY ADJUSTMENT

Adjust Sprag Relay Core Gap

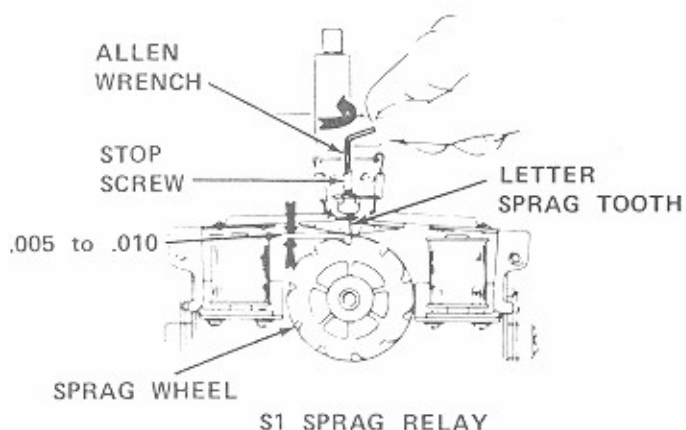
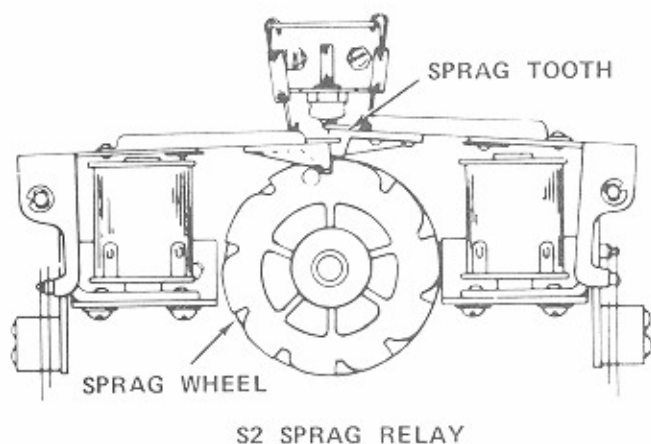
1. Bottom sprag relay S2 tooth in any one sprag wheel notch.
2. While holding tooth in notch, check clearance between sprag relay armature and magnet core. A piece of ordinary bond paper should just pass through this gap.
3. To adjust clearance, loosen sprag relay mounting and pivot screws and move relay as required.
4. Tighten screws and recheck adjustment.
5. Repeat steps 1 through 4 to adjust sprag relay S1.



SPRAG RELAY ADJUSTMENTS (CONTINUED)

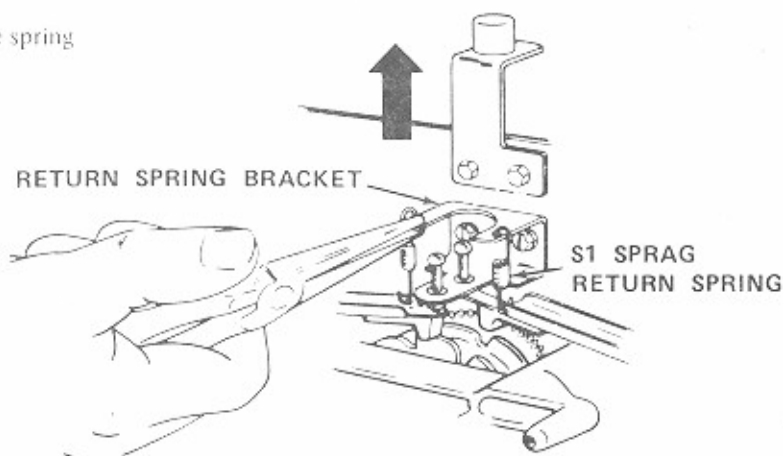
Adjust Sprag Tooth-To-Wheel Clearance

1. Align sprag relay S2 tooth with high point on sprag wheel.
2. Turn in stop screw until sprag relay tooth binds against sprag wheel. Do not force sprag wheel around when checking binding.
3. Back stop screw off 1/4-turn for 0.005- to 0.010- inch clearance as shown.
4. Repeat steps a through c to adjust sprag relay D1 for 0.018- to 0.030-inch clearance.



Adjust Return Spring Force

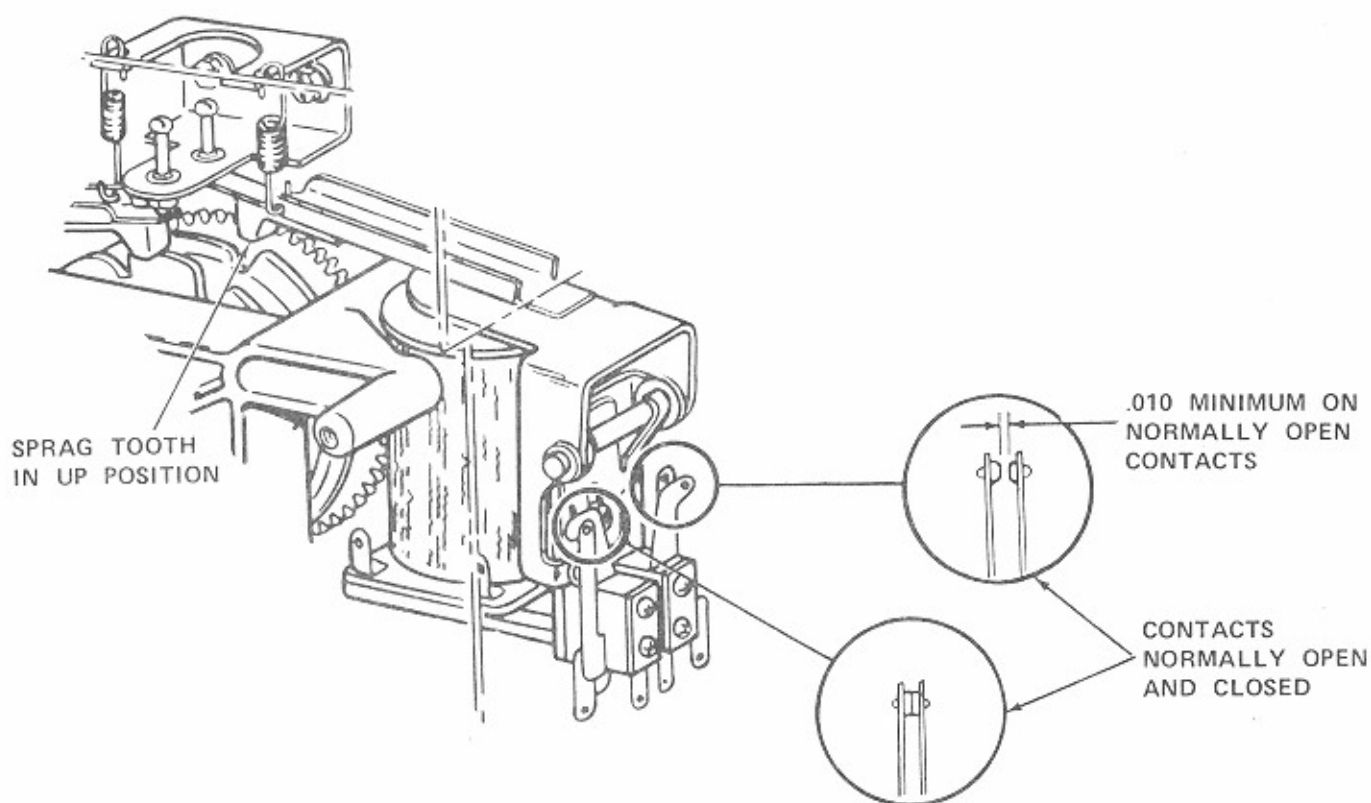
1. Check that return springs have enough tension to return sprag relay armatures to rest position when relay magnets are de-energized.
2. Bend return spring bracket, as shown, to increase spring tension. Do not bend S1 arm more than 1/16 inch; do not bend S2 arm more than 1/64 inch.
3. If proper tension cannot be obtained, replace return spring.



SPRAG RELAY ADJUSTMENTS (CONTINUED)

Adjust Relay Contact Make and Break Position

1. Slowly bottom sprag relay S1 tooth in a sprag wheel detent while observing relay contacts.
2. Check that contacts make before break halfway down into detent. Bend contact arms as required.
3. Repeat steps a and b for sprag relay S2. The contacts should make and break about $3/64$ inch from detent bottom.



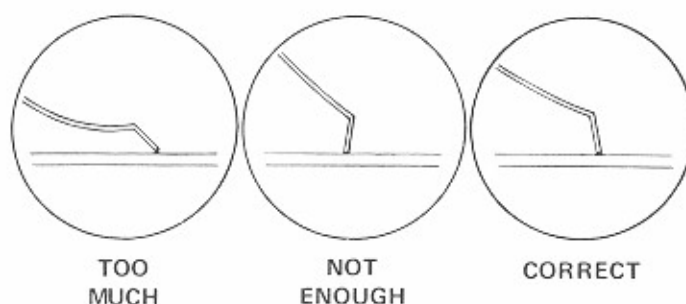
CONTACT SHOULD MAKE OR BREAK AT THIS POINT OF DOWNWARD TRAVEL OF TOOTH INTO NOTCH TO ALLOW OVERTRAVEL.



SEARCH WIPER ADJUSTMENTS

Adjust Wiper Blade Contact Force

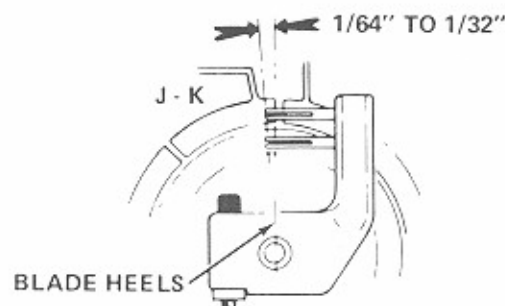
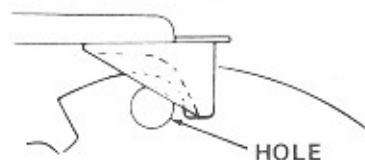
1. Loosen wiper arm hub setscrew and back wiper arm assembly away from commutator board.
2. Move wiper arm assembly toward board until blades just touch segments, then move wiper arm assembly toward circuit board 1/16- to 1/32-inch. The blades should be formed as shown.
3. Check wiper position on segments, then tighten hub setscrew.



Position Inside (Letter) Wiper On Commutator Board

1. Bottom sprag relay S2 tooth in sprag wheel notch closest to sprag wheel hole.
2. Check that outer wiper on inside circuit board is positioned on segment J-K. Segment J-K is located to the left of the board top center (facing the circuit board back side).
3. If wiper arm and wipers of inside circuit board are not properly aligned as shown, loosen hub setscrew, and while holding sprag relay S2 tooth in position as in step a, rotate wiper arm assembly to align wipers.
4. Tighten setscrew.

**NOTE: WHEN CHANGING POSITION OF WIPER ARM ASSEMBLY
BE SURE TO MAINTAIN PROPER CONTACT PRESSURE**

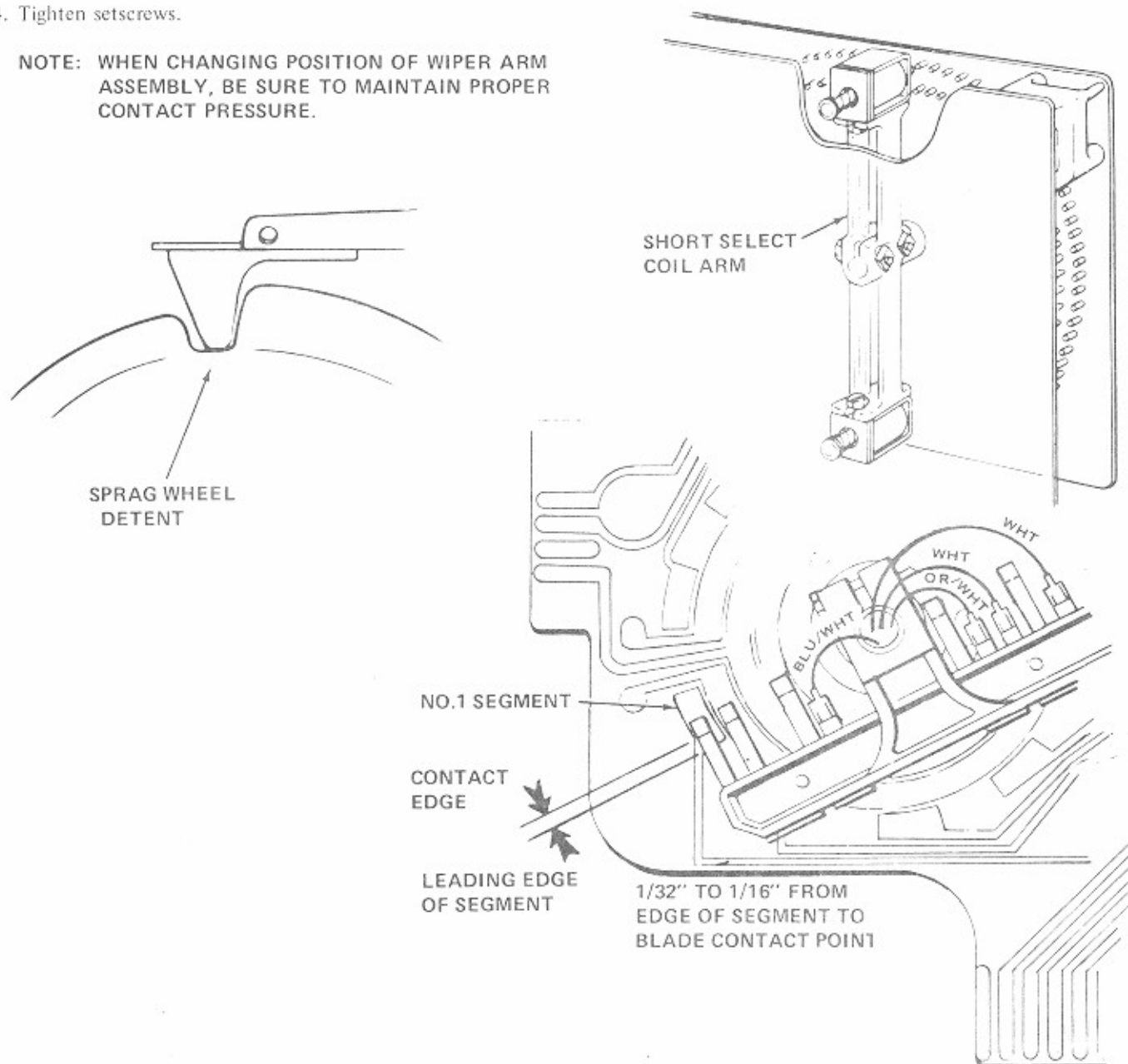


SEARCH WIPER ADJUSTMENTS (CONTINUED)

Position Outside (Number) On Commutator Board.

1. Bottom sprag relay S1 tooth in sprag wheel notch. Check that short select coil arm is up.
2. Check that wiper arm side with three blades on it is positioned on segment 1, as shown.
3. If adjustment is necessary, loosen the hub setscrew and, while holding sprag relay S1 tooth in position as in step 1, rotate wiper arm assembly to align wipers.
4. Tighten setscrews.

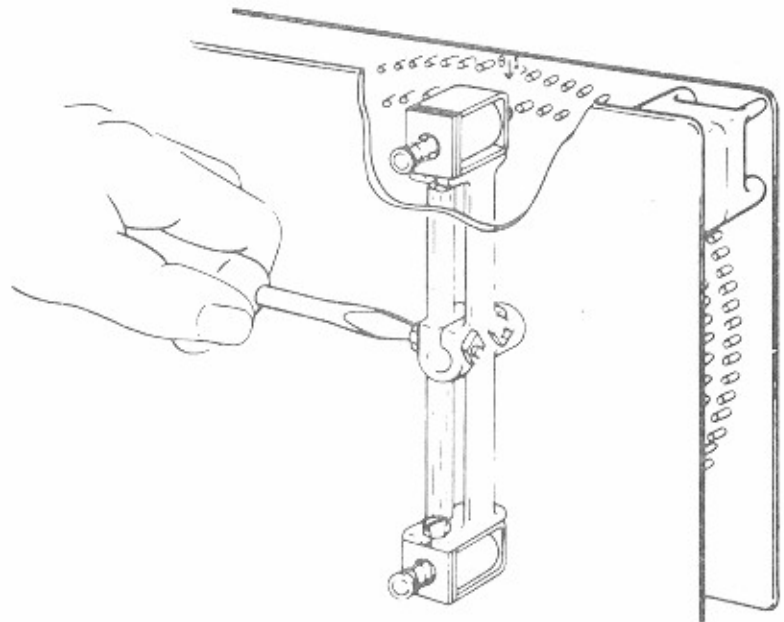
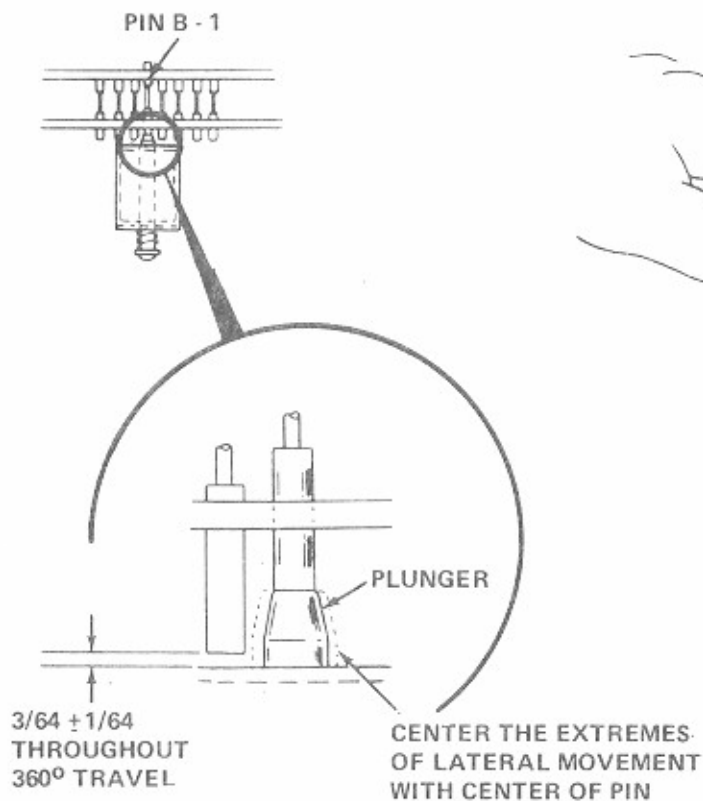
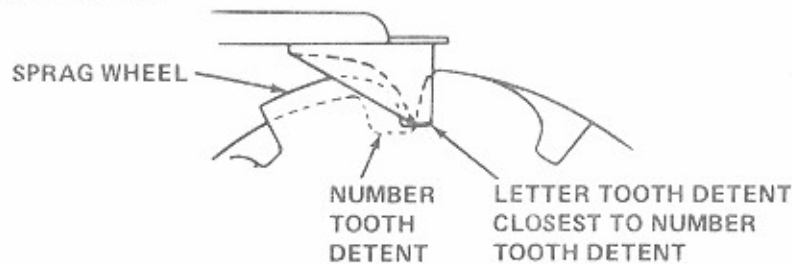
NOTE: WHEN CHANGING POSITION OF WIPER ARM ASSEMBLY, BE SURE TO MAINTAIN PROPER CONTACT PRESSURE.



SELECT COIL ADJUSTMENTS

Plunger-To-Pin Alignment

1. Bottom sprag relay S1 (numbers) tooth in any number detent.
2. Bottom sprag relay S2 (letters) tooth in sprag wheel detent closest to the chosen number detent.
3. Push out the pins above B-1 to facilitate viewing.
4. Check that select coil plunger on short select coil arm is aligned with pin B-1 on pinwheel assembly.
5. If adjustment is required, loosen select coil arm assembly mounting screws just enough to center plunger over pin B-1 without moving forward or back along drive shaft.
6. Check for a clearance of $3/64 \pm 1/64$ inch between the coil frames and pins for 360-degree select coil arm travel.



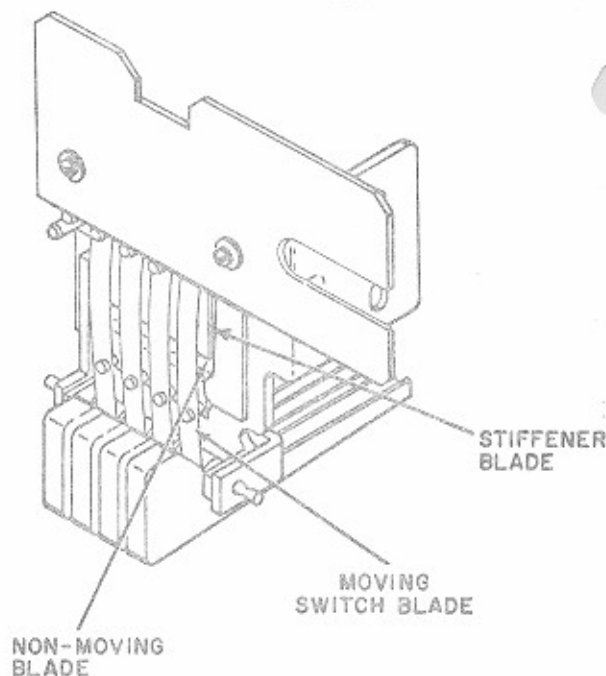
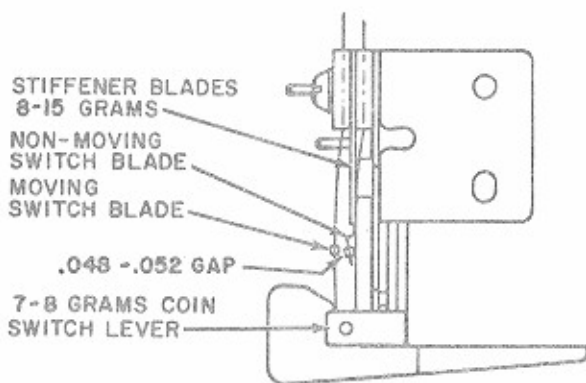
COIN SWITCH ADJUSTMENTS

Operational 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 gap between contacts at each switch is 0.048 to 0.052-inch. To adjust gap, bend stiffener blade.



REPAIR AND REPLACEMENT

Most of the repair and replacement procedures for the phonograph are of an obvious nature and may be performed without the use of special tools and techniques. Before attempting to perform any repair or replacement of parts, check for obvious faults as described on page 4-1.

When replacing a part, use only the correct ROWE part. Refer to the Parts Catalog section manual for correct ROWE part number and description. Order all parts from your authorized ROWE Distributor.

TESTING TRANSISTORS

Test transistors using a volt-ohm-milliammeter as follows:

1. Set the meter function switch to OHMS and the range switch to a medium scale (such as X10 on Simpson 260).
2. Connect ohmmeter to transistor leads to check NPN silicon transistors as follows:

NOTE

SOME METERS USE THE BLACK OR NEGATIVE LEAD AS THE POSITIVE LEAD FOR OHMS SCALE, TRIPLET BEING ONE OF THESE.

+ to emitter	
- to collector	- no reading
+ to collector	
- to emitter	- no reading
+ to base	
- to collector	- low reading (about 500 ohms)
+ to collector	
- to base	- no reading
+ to emitter	
- to base	- no reading
+ to base	
- to emitter	- low reading (about 500 ohms)



TO3
POWER TRANSISTOR



TO5
DRIVER TRANSISTOR

TRANSISTOR LEAD LOCATION

3. With positive meter lead on collector and negative lead on emitter, touch base to collector. Check that the meter shows a low reading to indicate that the transistor is conducting.
4. All previous tests indicate a good transistor. Any deviation from these conditions indicates a defective transistor.
5. For PNP transistors, reverse the polarities and proceed as in the previous steps.

TESTING DARLINGTON POWER TRANSISTORS

Test Darlington transistors using a volt-ohm-milliammeter as follows:

1. Set the meter function switch to ohms, and the range switch to X1 (on Simpson 260) for scale.
2. Connect ohmmeter to transistor leads to check NPN silicon Darlington power transistors as follows:

NOTE

SOME METERS USE THE BLACK OR NEGATIVE LEAD AS THE POSITIVE LEAD FOR OHMS SCALE, TRIPLET BEING ONE OF THESE.

+ to emitter	
- to collector	- Low reading
+ to collector	
- to emitter	- No reading
+ to base	
- to collector	- Low reading
+ to collector	
- to base	- No reading
+ to emitter	
- to base	- No reading
+ to base	
- to emitter	- Low reading

3. With positive meter lead on the collector and negative lead on emitter, touch the base to the collector. Check that the meter shows a low reading to indicate that the transistor is conducting.
4. For PNP transistors, reverse the polarities and proceed as in the previous steps.

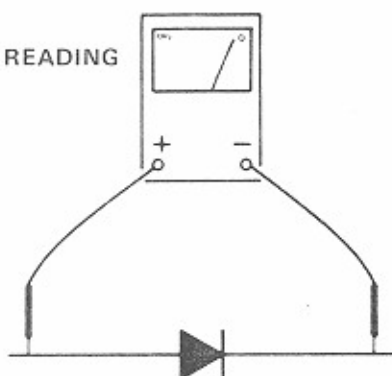
Test silicon diodes as follows:

1. Set the meter function switch to OHMS and the range switch to a medium scale.
2. Connect the diode as shown.

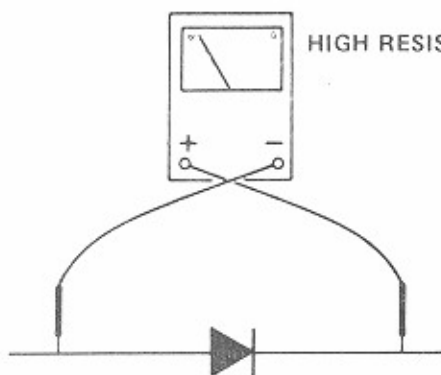
NOTE

CONNECTIONS MAY VARY WITH VARIOUS TYPES OF METERS. THE IMPORTANT THING TO REMEMBER IS THAT THE DIODE SHOULD INDICATE NO READING WITH THE LEADS CONNECTED ONE WAY AND A LOW READING WHEN CONNECTED IN THE OPPOSITE POLARITY.

LOW RESISTANCE READING



HIGH RESISTANCE READING



DIODE TEST HOOKUP

REPLACING DARLINGTON POWER TRANSISTORS

Fuses mounted on driver boards on underside of amplifier serve a diagnostic function; an open fuse indicates a foiled darlington power transistor, Q1 or Q2. Replace only the transistor adjacent to the open fuse. Using the following procedure:

64 Watt Amplifier

1. Remove open fuse.
2. Remove phillips head screw and nut holding transistor to heat sink.
3. Pull transistor from socket, being sure to retain mica insulator under transistor.
4. Apply Thermal Joint Compound (Rowe Spec 53) to BOTH sides of mica insulator and place insulator against heat sink.
5. Plug new transistor into socket and replace screw and nut. Do not overtighten.

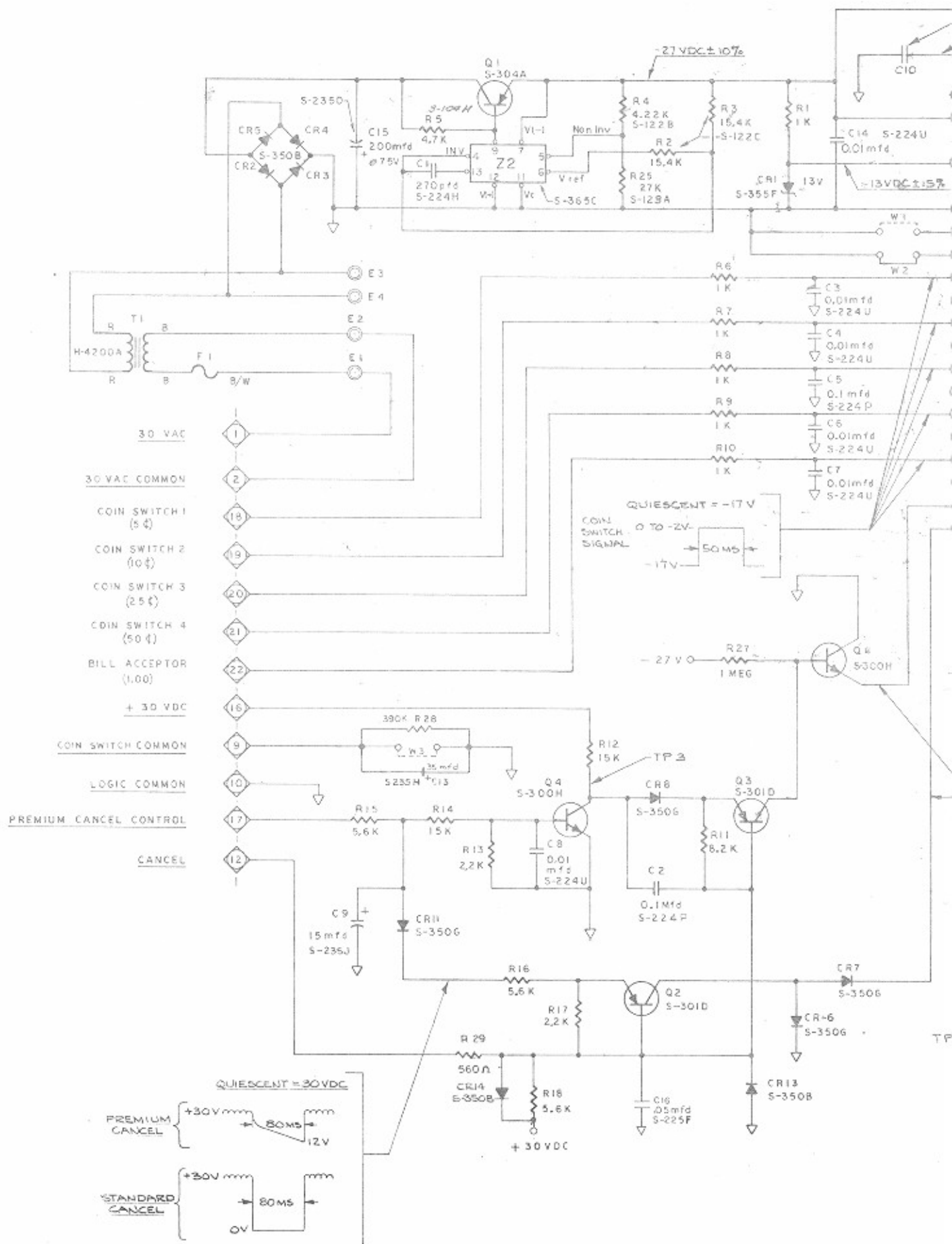
CAUTION

DIRECT CONTACT BETWEEN OUTPUT TRANSISTOR AND HEAT SINK WILL DESTROY TRANSISTOR. INSULATE AS DIRECTED.

6. Install new 2 amp fuse.

120 Watt Amplifier

1. Remove open fuse.
2. Locate correct transistor to be replaced. This will be transistor on top of heat sink assembly directly above the open fuse.
3. Remove two phillips head screws holding transistor. Be sure to retain mica insulator under transistor.
4. Apply Thermal Joint Compound to BOTH sides of mica insulator and place insulator in position on heat sink.
5. Install new transistor with 2 screws. Tighten firmly but do not overtighten. Note Caution above.
6. Install new 5 amp fuse.



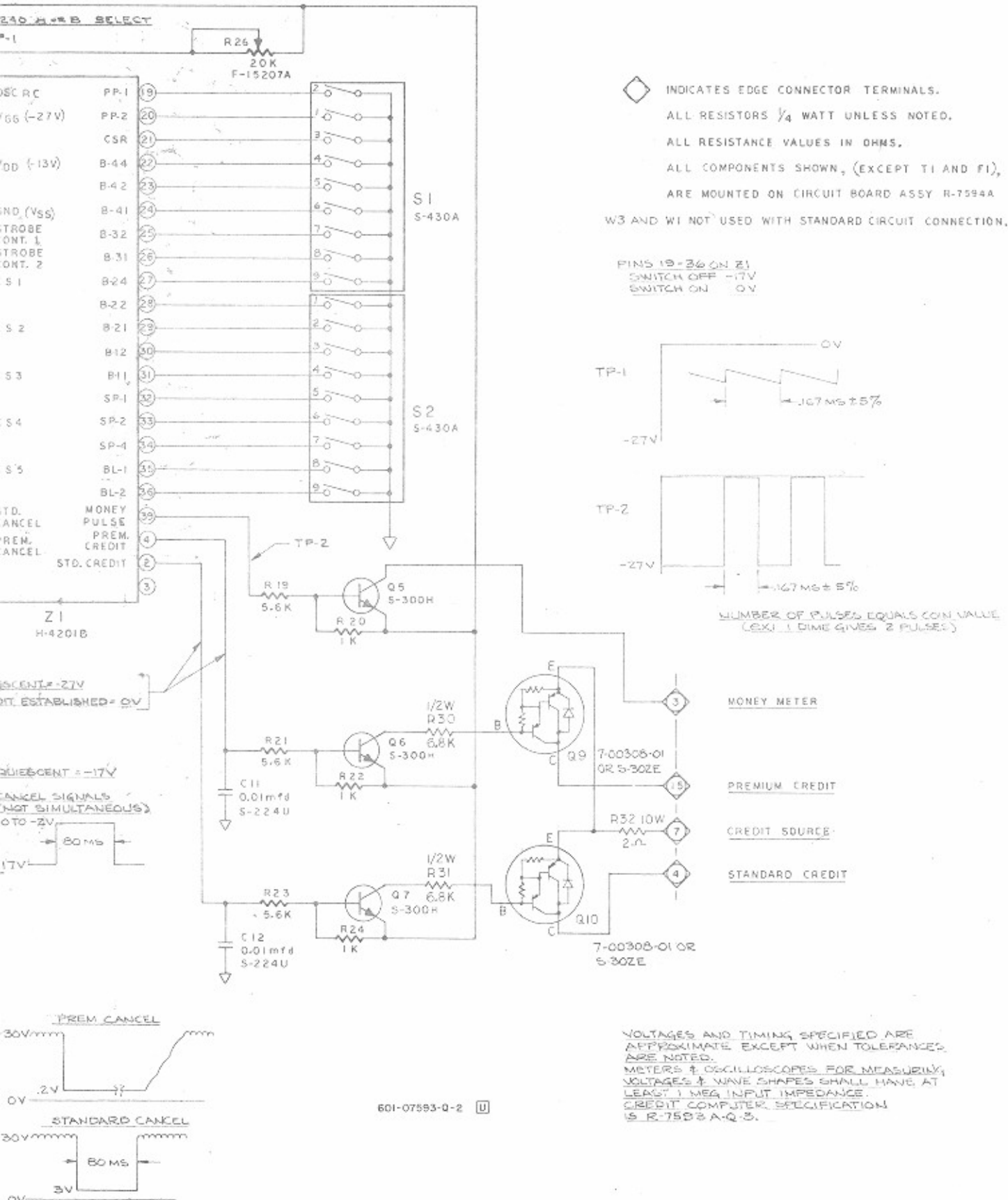


FIGURE 6-18. CREDIT COMPUTER BOARD SCHEMATIC DIAGRAM

REF. DESIG.	DESCRIPTION	ROWE PART NUMBER
601-07593 MOS CREDIT COMPUTER		
F1	1/4 Amp Cartridge Fuse	707-00720
FS1	Fuseholder Assembly	201-15220
T1	Transformer Assembly	301-04207
	Chassis Base	602-02199
	Chassis Cover Assembly	402-06328
	Mica Washer	201-15208
	Circuit Board Support	704-05000
	Molded Bumper	200-13778
	Heat Sink	201-15273
	Insulating Channel	702-02350
	Insulating Channel	703-02350
	Credit Computer Circuit Board Assembly containing the following parts:	601-07594
C1	Ceramic Disc Capacitor, 270 pF, 100V	708-00224
C2	Ceramic Disc Capacitor, 0.1 MFD, 25V	716-00224
C3, C4	Ceramic Disc Capacitor, 0.01 MFD, 100V	721-00224
C5	Ceramic Disc Capacitor, 0.1 MFD, 25V	716-00224
C6 to C8	Ceramic Disc Capacitor, 0.01 MFD, 25V	721-00224
C9	Electrolytic Capacitor, 15 MFD, 50V (Mallory TT; Sprague 30D; G.E. 78F, 76F)	710-00235
* C10	Mylar Capacitor, 0.47 MFD, 100V (Paktron FM720; Amperex C280)	708-00240
* C10	Mylar Capacitor, 0.1 MFD, 100V (Sprague 225P; Paktron FM720; Amperex C280)	702-00240
	* Select one to meet oscillator frequency specification	
C11, C12	Ceramic Disc Capacitor, 0.01 MFD, 100V	721-00224
C13	Electrolytic Capacitor, 35 MFD, 50V (Same type as C9)	708-00235
C14	Ceramic Disc Capacitor, 0.01 MFD, 100V	721-00224
C15	Electrolytic Capacitor, 200 MFD, 75V (Mallory TCW, Collins ARD)	704-00235
C16	Ceramic Disc Capacitor, 0.05 MFD, 50V	706-00224
CR1	Zener Diode (1N4743A)	706-00355
CR2 to CR5	Silicon Diode (1N4002)	702-00350
CR6 to		
CR8, CR11	Silicon Diode (Selected 1N914B; 1N4448; 1N4148)	707-00350
CR13, CR14	Silicon Diode (Same as CR2)	702-00350
E1 to E4	P.C. Board Terminal Tab (AMP 62144-1)	701-00918
Q1	Silicon Transistor, PNP (Motorola MJE 5194; RCA 32A; Fairchild 2N6125)	701-00304
Q2, Q3	Silicon Transistor, PNP (Motorola, Fairchild or Nat'l Semicond. MPS-A56)	704-00301
Q4 to Q8	Silicon Transistor, NPN (Motorola, Fairchild or Nat'l Semicond. MPS-056)	708-00300
Q9, Q10	Darlington Amplifier Transistor, PNP (Motorola 2N6041; Texas Instr. TIP-136)	701-00308
	Darlington Amplifier Transistor, PNP (Motorola MJE 6041) (Alternate Q9, Q10)	705-00302
R1	1/4W Carbon Resistor, 1K	7-9900-102
R2, R3	1/4W Fixed Film Resistor, 15.4K $\pm 2\%$	703-00122
R4	1/4W Fixed Film Resistor, 4.22K $\pm 2\%$	702-00122
R5	1/2W Carbon Resistor, 4.7K	708-00104
R6 to R10	1/4W Carbon Resistor, 1K	7-9900-102
R11	1/4W Carbon Resistor, 8.2K	7-9900-822
R12	1/4W Carbon Resistor, 15K	7-9900-153
R13	1/4W Carbon Resistor, 2.2K	7-9900-222
R14	1/4W Carbon Resistor, 15K	7-9900-153
R15, R16	1/4W Carbon Resistor, 5.6K	7-9900-562
R17	1/4W Carbon Resistor, 2.2K	7-9900-222
R18, R19	1/4W Carbon Resistor, 5.6K	7-9900-562
R20	1/4W Carbon Resistor, 1K	7-9900-102
R21	1/4W Carbon Resistor, 5.6K	7-9900-562
R22	1/4W Carbon Resistor, 1K	7-9900-102
R23	1/4W Carbon Resistor, 5.6K	7-9900-562
R24	1/4W Carbon Resistor, 1K	7-9900-102
R25	1/4W Fixed Film Resistor, 27K $\pm 5\%$	701-00123
R26	50K Variable Resistor	202-15207
R27	1/4W Carbon Resistor, 1 Meg	7-9900-105
R28	1/4W Carbon Resistor, 390K	7-9900-394
R29	1/4W Carbon Resistor, 560 Ohms	7-9900-561
R30, R31	1/2W Carbon Resistor, 6.8K	718-00104
R32	10W Wirewound Resistor, 2 Ohms (IRC Type PW10)	705-00125
S1, S2	DIP Switch (Molex 01-70-0109; AMP 435166-6; CTS 206-9)	701-00430
Z1	MOS Credit Accumulator	302-04201
Z2	Voltage Regulator, Linear I.C. (Motorola MC7805CK; Ratheon RC-109LK)	703-00365
MISCELLANEOUS PARTS		
	Printed Circuit Board	601-07595

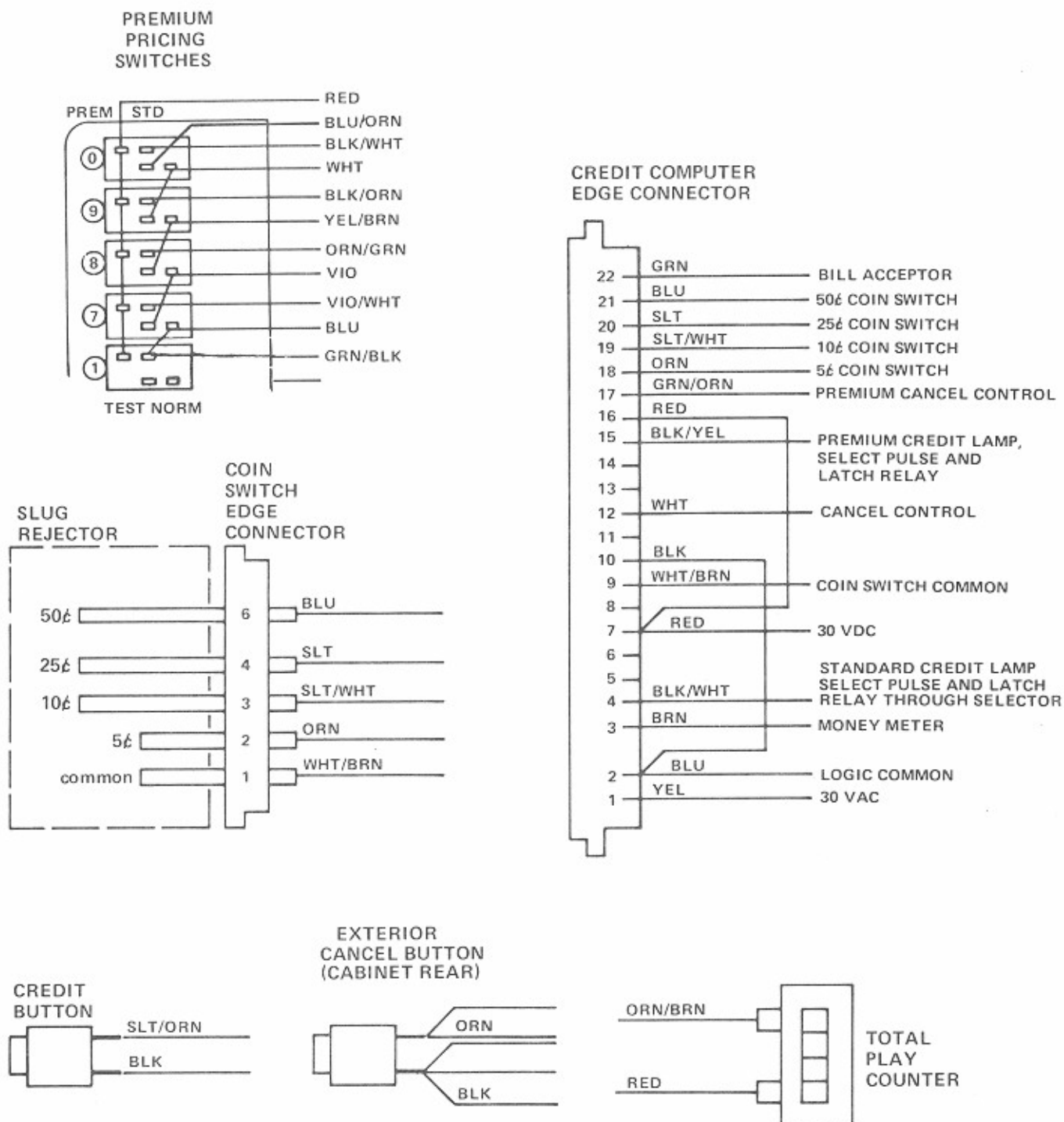


FIGURE 6-19. CREDIT AND PRICING SYSTEM WIRING DIAGRAM

S-915E 4 REQ'D

WIRE CODE

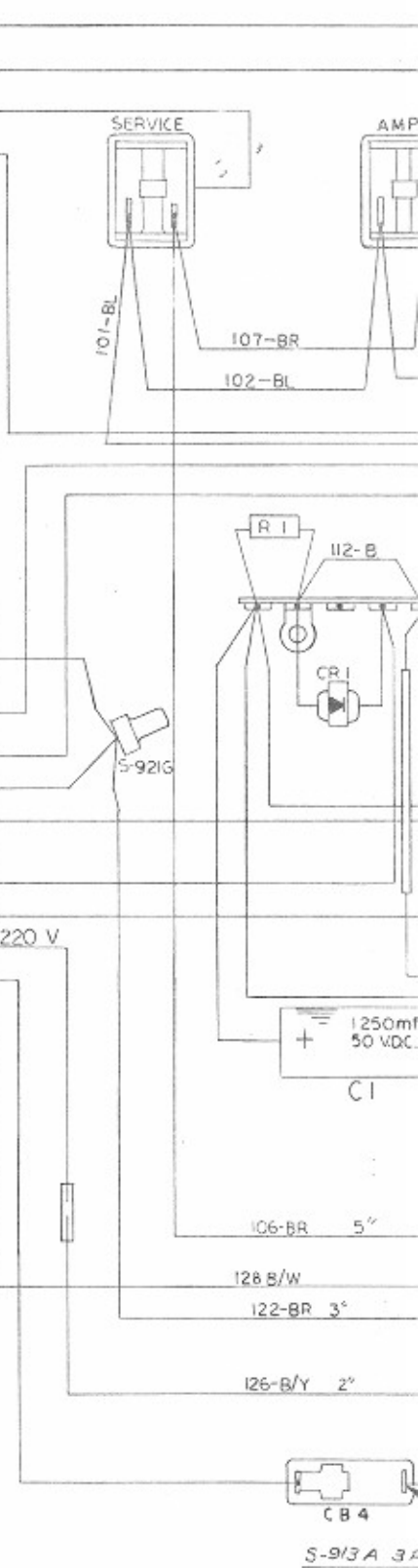
BR - BROWN WIRE
BL - BLUE WIRE
G/Y - GREEN/YELLOW WIRE
R - RED WIRE
Y - YELLOW WIRE
B/Y - BLACK/YELLOW WIRE
B - BLACK WIRE
B/W - BLACK/WHITE WIRE

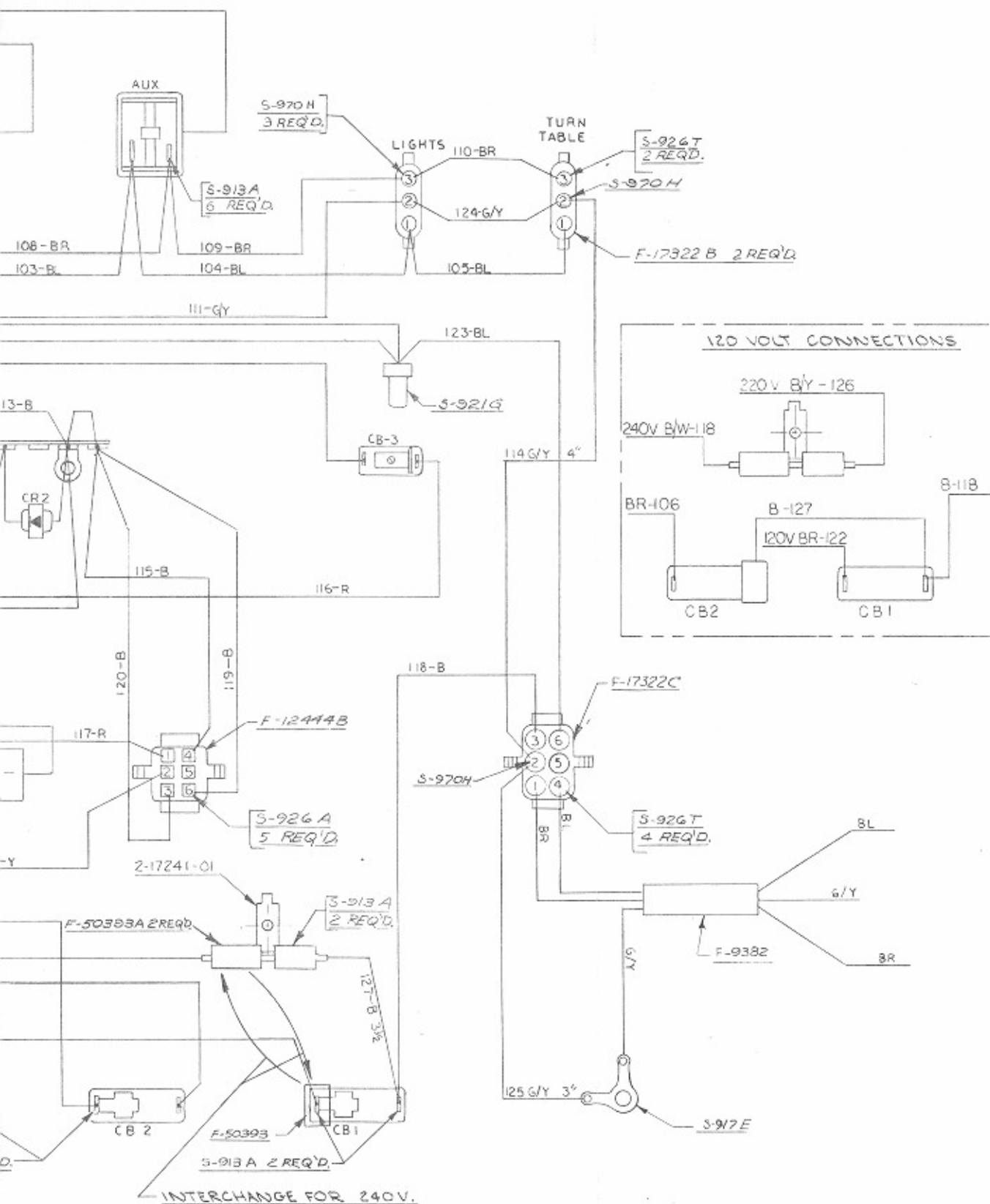


PARTS LIST

JUNCTION BOX ASS'Y (240-220-120 V.) 401-06656

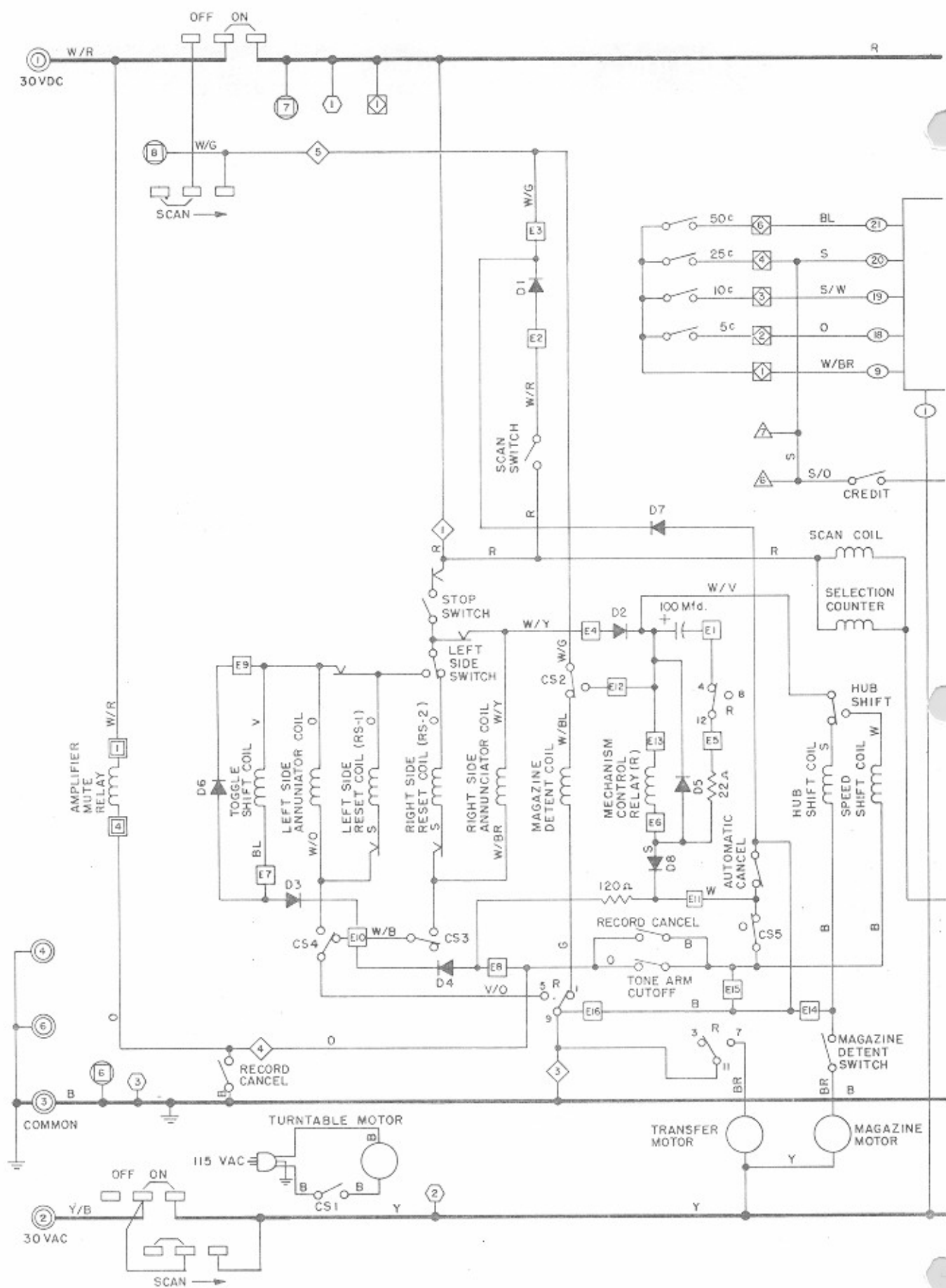
PART DESCRIPTION	PART NO.
JUNCTION BOX WITH LETTERING	H-7277 A
BRKT - MTG	H-7278 A
TERMINAL STRIP	F-13326
TERMINAL STRIP	2-17241-01
CONVENIENCE OUTLET - 3 WIRE	F-13759
SOCKET HOUSING (6 CIRCUIT) MATE-N-LOK	F-12444 B
SOCKET HOUSING	F-17322 C
SOCKET HOUSING	F-17322 B
DIODE - SILICON	S-350 J
RESISTOR - CARBON (1/2 WATT)	S-104 H
CAPACITOR - ELECTROLYTIC	S-233 J
CIRCUIT BREAKER	7-00733-17
CIRCUIT BREAKER	7-00734-22
CIRCUIT BREAKER	7-00734-17
TRANSFORMER - JUNCTION BOX	L-6719 A
POWER CORD	F-9382
STRAIN RELIEF	S-2321 D
COVER - CORD HOLE	F-14059
TERMINAL LUG - SLIP-ON	S-913 A
INSULATOR	F-50393

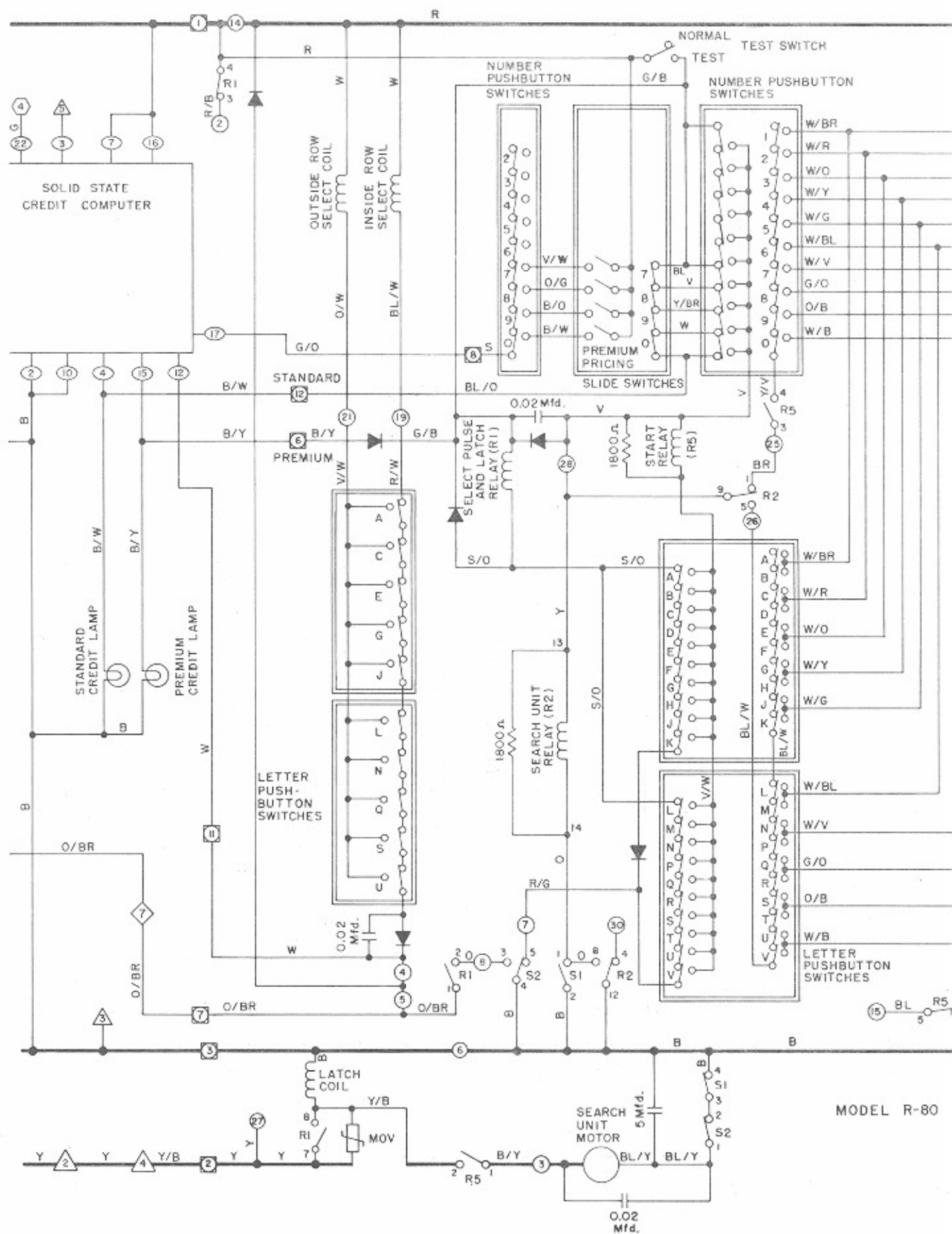




401-06656-Q-1 [C]

FIGURE 6-17. 220V JUNCTION BOX WIRING DIAGRAM





COMPONENT REF DESIGNATION	DESCRIPTION	ROWE PART NO.
PRE-AMPLIFIER ASSEMBLY (2 WIRE VOLUME CONTROL) 602-03758		
C1R, C1L	Capacitor, Mylar, 0.47 MFD, 100V (Paktron FM 11000; Electromotive P94741-1)	701-00240
C2R, C2L	Capacitor, Mylar, 0.022 MFD 400V (Paktron FM 720; Sprague 225P)	702-00241
C3R, C3L	Capacitor, Mylar, 0.012 MFD, 100V (Paktron FM 590; Sprague 225P)	703-00241
C4R, C4L	Capacitor, Mylar, 0.1 MFD, 100V (Paktron FM 720; Sprague 225P)	702-00240
C5R, C5L	Capacitor, Mylar, 0.1 MFD, 100V (Same as C4)	702-00240
C6R, C6L	Capacitor, Electrolytic, 5 MFD, 25V (Sprague 30D; G.E. 76F; Mallory TT)	702-00233
C7R, C7L	Capacitor, Mylar, 0.1 MFD, 100V (Same As C4)	702-00240
C8R, C8L	Capacitor, Mylar, 0.022 MFD, 100V (Sprague 225P; Paktron FM720; G.E. 75 FIRA)	704-00240
C9R, C9L	Capacitor, Mylar, 0.01 MFD, 100V (Sprague 225P; Paktron FM720; Electromotive P91031-1)	707-00240
C10R, C10L	Capacitor, Ceramic Disc, 0.0022 MFD, 100V	703-00224
C11R, C11L	Capacitor, Ceramic Disc, 0.001 MFD, 100V	702-00224
C12R, C12L	Capacitor, Ceramic Disc, 0.0018 MFD, 100V	712-00224
C13R, C13L	Capacitor, Mylar, 0.1 MFD, 100V (Same as C4)	702-00240
C14R, C14L	Capacitor, Mylar, 0.1 MFD, 100V (Same as C4)	702-00240
C15R, C15L	Capacitor, Mylar, 0.1 MFD, 100V (Same as C4)	702-00240
C16R, C16L	Capacitor, Mylar, 0.1 MFD, 100V (Same as C4)	702-00240
C17R, C17L	Capacitor, Mylar, 0.1 MFD, 100V (Same as C4)	702-00240
C18R, C18L	Capacitor, Mylar, 0.1 MFD, 100V (Same as C4)	702-00240
C19R, C19L	Capacitor, Mylar, 0.0047 MFD, 100V (Same Type as C3)	716-00240
C20R, C20L	Capacitor, Mylar, 0.01 MFD, 100V (Same as C9)	707-00240
C21R, C21L	Capacitor, Mylar, 0.033 MFD, 100V (Same Type as C2)	710-00240
C22R, C22L	Capacitor, Ceramic Disc, 0.0047 MFD, 100V	704-00224
C23R, C23L	Capacitor, Electrolytic, 5 MFD, 25V (Same as C6)	702-00233
C24	Capacitor, Tantalum, 47 MFD, 15V (Sprague 196D; Mallory TDC; I.T.T. TAG, TAP)	702-00251
C25	Capacitor, Tantalum, 47 MFD, 20V (Sprague 164D; Components, INC. TE3)	Alternate 702-00250
	Capacitor, Tantalum, 33 MFD, 4V (Same Type as C24)	Alternate 701-00251
C26	Capacitor, Tantalum 33 MFD, 20V (Same Type as Alternate C24)	Alternate 701-00250
	Capacitor, Electrolytic, 100 MFD, 6V (Sprague 30D, G.E. 76F; Mallory TT)	706-00233
C27	Capacitor, Mylar, 0.1 MFD (Same As C4)	702-00240
C28	Capacitor, Electrolytic, 5 MFD, 25V (Same As C6)	702-00233
C29	Capacitor, Mylar, 0.1 MFD, 100V (Same As C4)	702-00240
D1R, D1L	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D2R, D2L	Diode, Silicon, (G.E. & ITT No. 8502)	707-00350
D3R, D3L	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D4R, D4L	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D5	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D6	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D7	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D8	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D9	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D10	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D11	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D12	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D13	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D14	Diode, Silicon, (G.E. & ITT No. CD-8502)	707-00350
D15	Diode, Germanium, (1N191, ITT, Sylvania, Gen'l Instr.)	701-00351
R1R, R1L	Resistor, Carbon, 5.6K $\pm 5\%$, 1/2 W	718-00106
R2R, R2L	Resistor, Carbon, 2.2 Meg, 1/2 W	704-00102
R3R, R3L	Resistor, Carbon, 27 K 1/2 W	724-00104
R4R, R4L	Resistor, Carbon, 10 K, 1/2 W	713-00102
R5R, R5L	Resistor, Carbon, 15 K $\pm 5\%$, 1/2 W	716-00106
R6R, R6L	Resistor, Carbon, 1.8 Meg, 1/2 W	708-00121
R7R, R7L	Resistor, Carbon, 4.7K, $\pm 5\%$, 1/2 W	707-00107
R8R, R8L	Resistor, Carbon, 3.9K $\pm 5\%$, 1/2W	725-00104
R9R, R9L	Resistor, Carbon, 560 Ohm $\pm 5\%$, 1/2 W	703-00104
R10R, R10L	Resistor, Carbon, 120 K, $\pm 5\%$, 1/2 W	711-00121
R12R, R12L	Resistor, Carbon, 1 Meg, 1/2 W	706-00102
R13R, R13L	Resistor, Carbon, 1 Meg, 1/2 W	706-00102

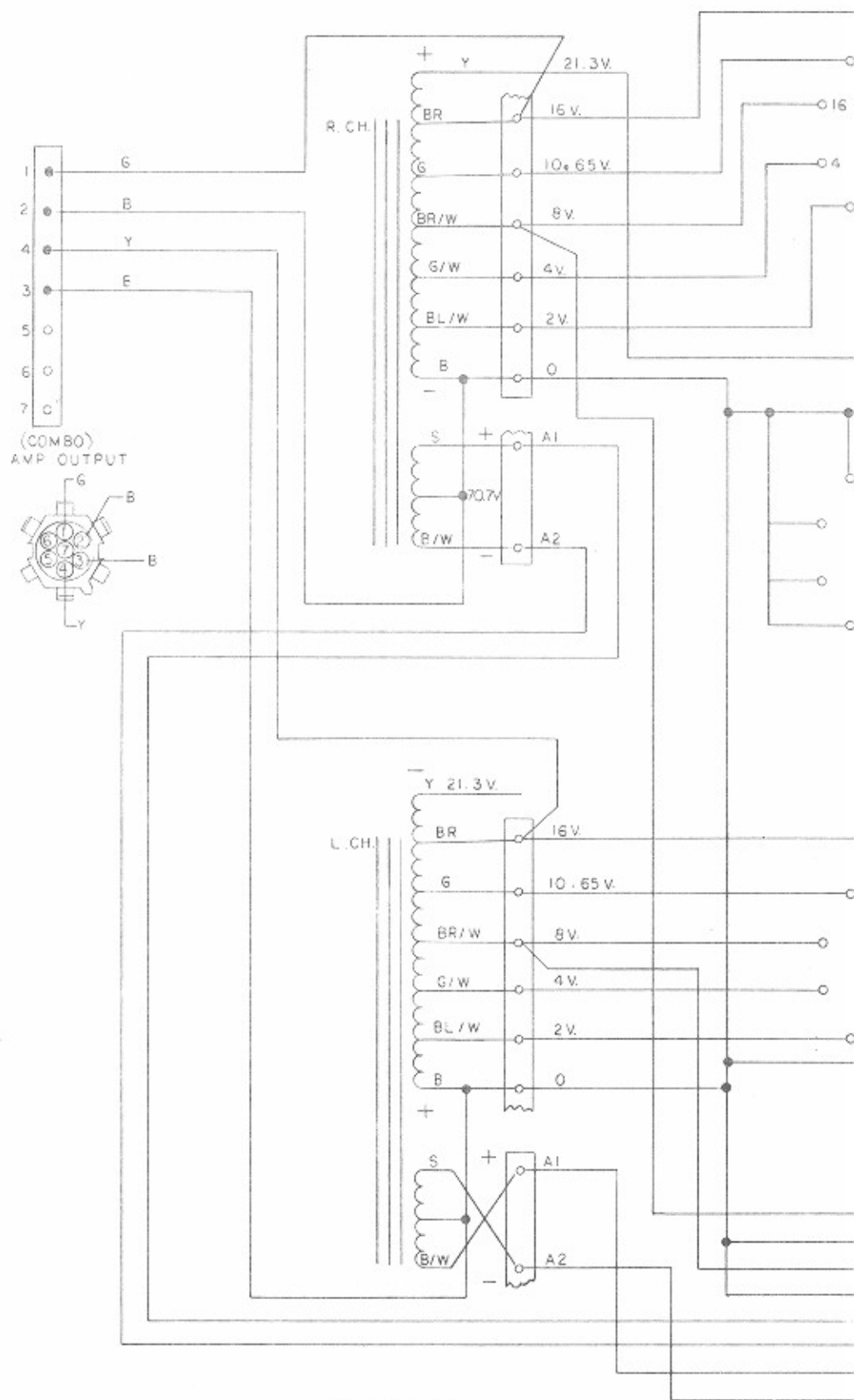
COMPONENT REF
DESIGNATION

DESCRIPTION

ROWE
PART NO.

R14R, R14L	Resistor, Carbon, 10 K, 1/2 W	713-00102
R15R, R15L	Resistor, Carbon, 1 Meg, 1/2 W	706-00102
R16R, R16L	Resistor, Carbon, 47 Ohm, 1/2 W	708-00120
R17R, R17L	Resistor, Carbon, 12 K 5%, 1/2 W	714-00107
R18R, R18L	Resistor, Carbon, 200 Ohm $\pm 5\%$, 1/2 W	701-00109
R19R, R19L	Resistor, Carbon, 43 K $\pm 5\%$, 1/2 W	722-00120
R20R, R20L	Resistor, Carbon, 2.2 K, 1/2 W	710-00102
R21R, R21L	Resistor, Carbon, 15 K, 1/2 W	708-00106
R22	Resistor, Carbon, 220 Ohm, 1/2 W	711-00106
R23R, R23L	Resistor, Carbon, 150 K $\pm 5\%$, 1/2 W	712-00121
R24R, R24L	Resistor, Carbon, 150 K $\pm 5\%$, 1/2 W	712-00121
R25R, R25L	Resistor, Carbon, 1 Meg, 1/2 W	706-00102
R26R, R26L	Resistor, Carbon, 68 Ohm, $\pm 5\%$, 1/2 W	705-00109
R27R, R27L	Resistor, Carbon, 4.7 K $\pm 5\%$, 1/2 W	707-00107
R28R, R28L	Resistor, Carbon, 220 K, 1/2 W	707-00102
R29R, R29L	Resistor, Carbon, 1 Meg, 1/2 W	706-00102
R30R, R30L	Resistor, Carbon, 1 Meg, 1/2 W	706-00102
R31R, R31L	Resistor, Carbon, 68 Ohm, $\pm 5\%$, 1/2 W	705-00109
R32R, R32L	Resistor, Carbon, 4.7 K, $\pm 5\%$, 1/2 W	707-00107
R33R, R33L	Resistor, Carbon, 1 Meg, 1/2 W	706-00102
R34R, R34L	Resistor, Carbon, 220K, 1/2 W	707-00102
R36R, R36L	Resistor, Carbon, 150 K, 1/2 W	702-00102
R38R, R38L	Resistor, Carbon, 270 K, 1/2 W	704-00107
R39R, R39L	Resistor, Carbon, 33K, 1/2 W	707-00106
R41R, R41L	Potentiometer, Linear, 10 K (Stackpole No. 20C; CTS No. X-201)	705-00400
R42R, R42L	Resistor, Carbon, 4.7K 1/2 W	718-00104
R43	Resistor, Carbon, 330 K, 1/2 W	708-00104
R44	Resistor, Carbon, 270 K, 1/2 W	712-00102
R45, R46	Resistor, Carbon, 220 Ohm, 1/2 W	704-00107
R47, R48	Resistor, Carbon, 43 K $\pm 5\%$, 1/2 W	711-00106
R49	Resistor, Carbon, 100 K, 1/2 W	722-00120
R50	Resistor, Carbon, 120 K, 1/2 W	718-00102
R51	Resistor, Carbon, 10 K, 1/2 W	703-00106
R52	Potentiometer, Linear, 300 Ohm	713-00102
R56	Resistor, Carbon, 390 K, 1/2 W	200-13023
R57	Resistor, Carbon, 15 Ohm, 1/2 W	722-00106
R58	Resistor, Carbon, 15 K 1/2 W	702-00120
R59	Resistor, Carbon, 18 K, 1/2 W	708-00106
R60	Resistor, Carbon, 22 K, 1/2 W	708-00102
R61	Resistor, Carbon, 33 K, $\pm 5\%$, 1/2 W	711-00104
R62	Thermistor, 51 K @ 25°C (Keystone Carbon Co. No. RL2006-26900-150-S2)	714-00106
Q1R, Q1L	Transistor, Silicon, NPN (Sprague Elec. TZ-1205; Motorola SPS 1481; G.E. X32B4683)	701-00370
Q2R, Q2L	Transistor, Silicon, NPN (Sprague Elec. TZ-1205; Motorola SPS 1481; G.E. X32B4683)	705-00300
Q3R, Q3L	Transistor, Silicon, NPN (Sprague Elec. TZ-1205; Motorola SPS 1481; G.E. X32B4683)	705-00300
Q4R, Q4L	Transistor, Silicon, NPN (G.E. X32B4680; Motorola SPS6978)	705-00300
Q5R, Q5L	Transistor, Silicon, NPN (G.E. X32B4680; Motorola SPS6978)	701-00300
Q6R, Q6L	Transistor, Silicon, NPN (See Q1R)	701-00300
Q7R, Q7L	Transistor, Silicon, NPN (See Q1R)	705-00300
Q8R, Q8L	Transistor, Silicon, NPN (G.E. X32B4682; Motorola SPS6979)	705-00300
Q9R, Q9L	Transistor, Silicon, NPN (G.E. X32B4686; Motorola SPS6980)	702-00300
Q10	Transistor, Silicon, NPN (G.E. X32B4686; Motorola SPS6980)	703-00300
Q11	Transistor, Silicon, NPN (See Q8R)	703-00300
MISCELLANEOUS PARTS		
Switch, Rotary, 4 Pole, 3 Position, Non-Shorting (Treble Range Control)		200-13024
Switch, Rotary, 2 Pole, 3 Position, Non-Shorting, (Stereo Balance)		200-13025
Circuit Board, Pre-Amplifier		602-03788

PRE-AMPLIFIER PARTS LIST



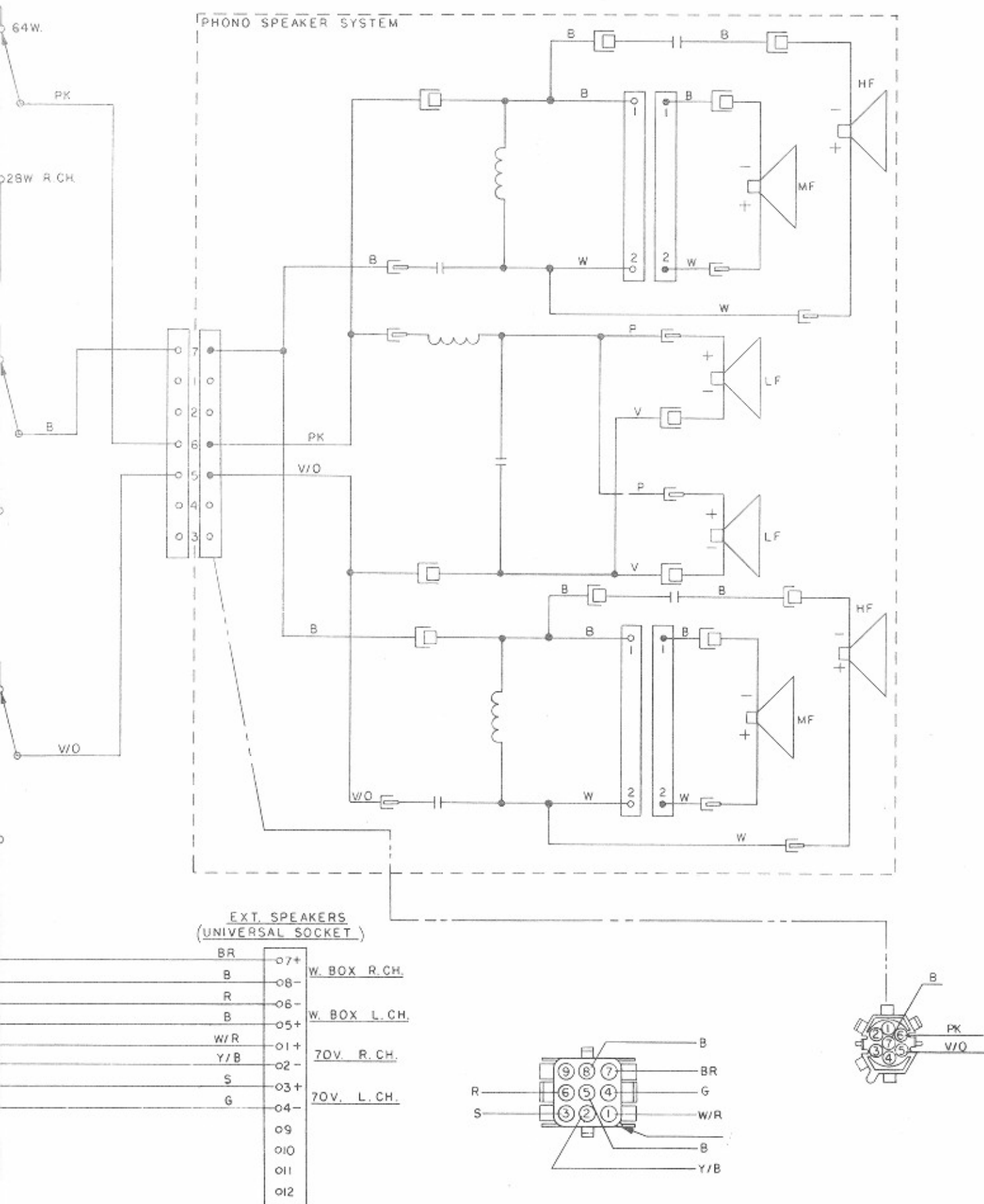
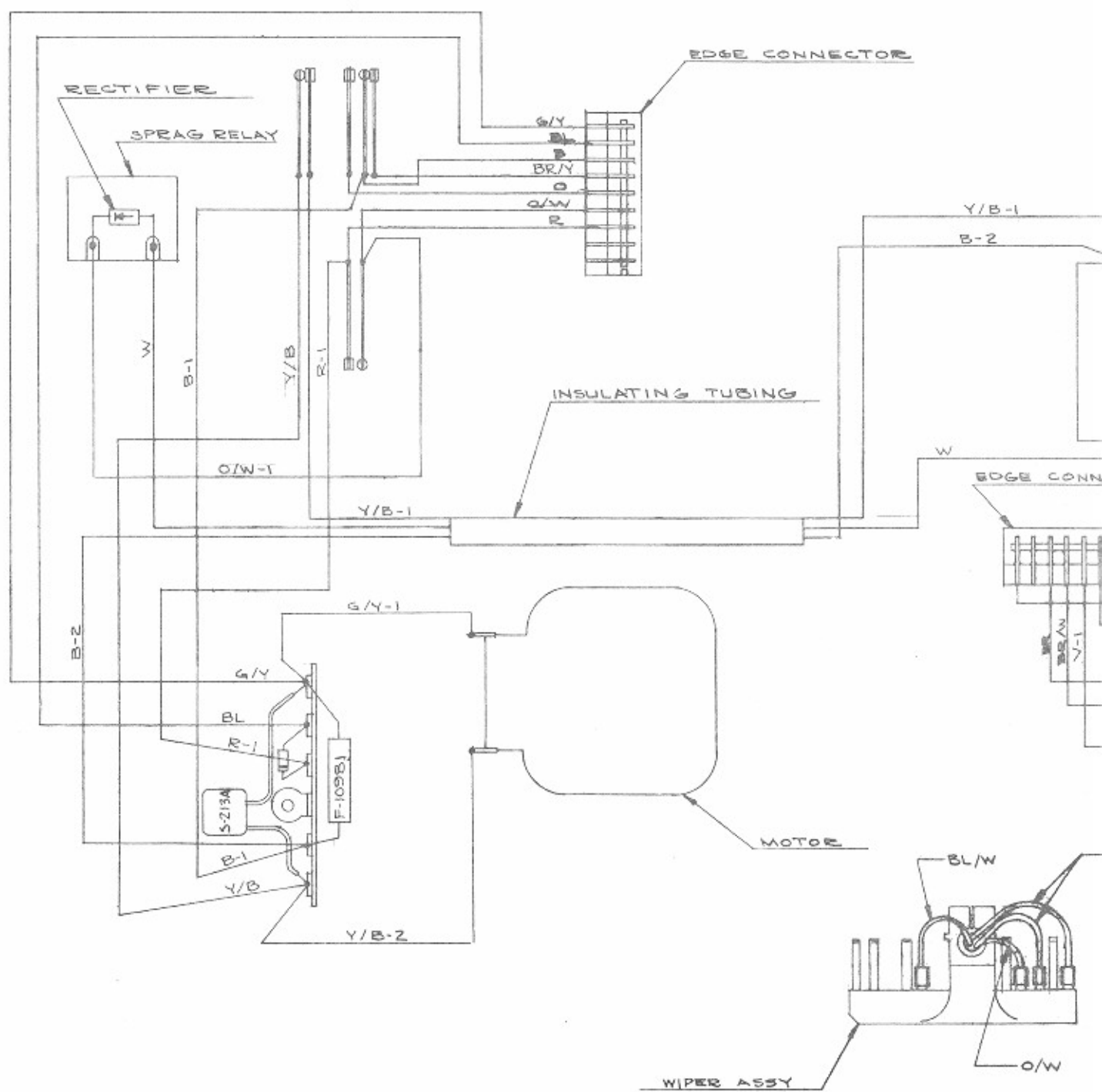
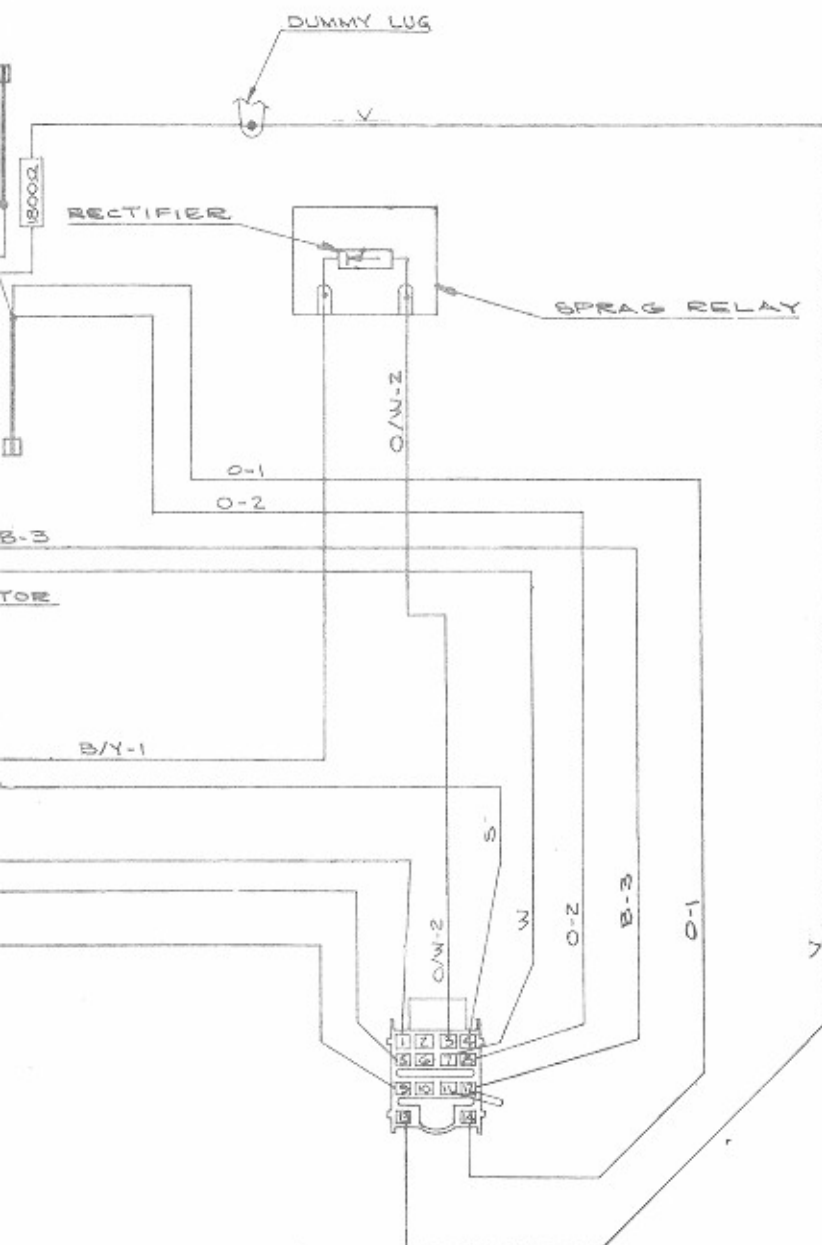


FIGURE 6-10. 64 WATT OUTPUT TRANSFORMER PACKAGE, SCHEMATIC DIAGRAM



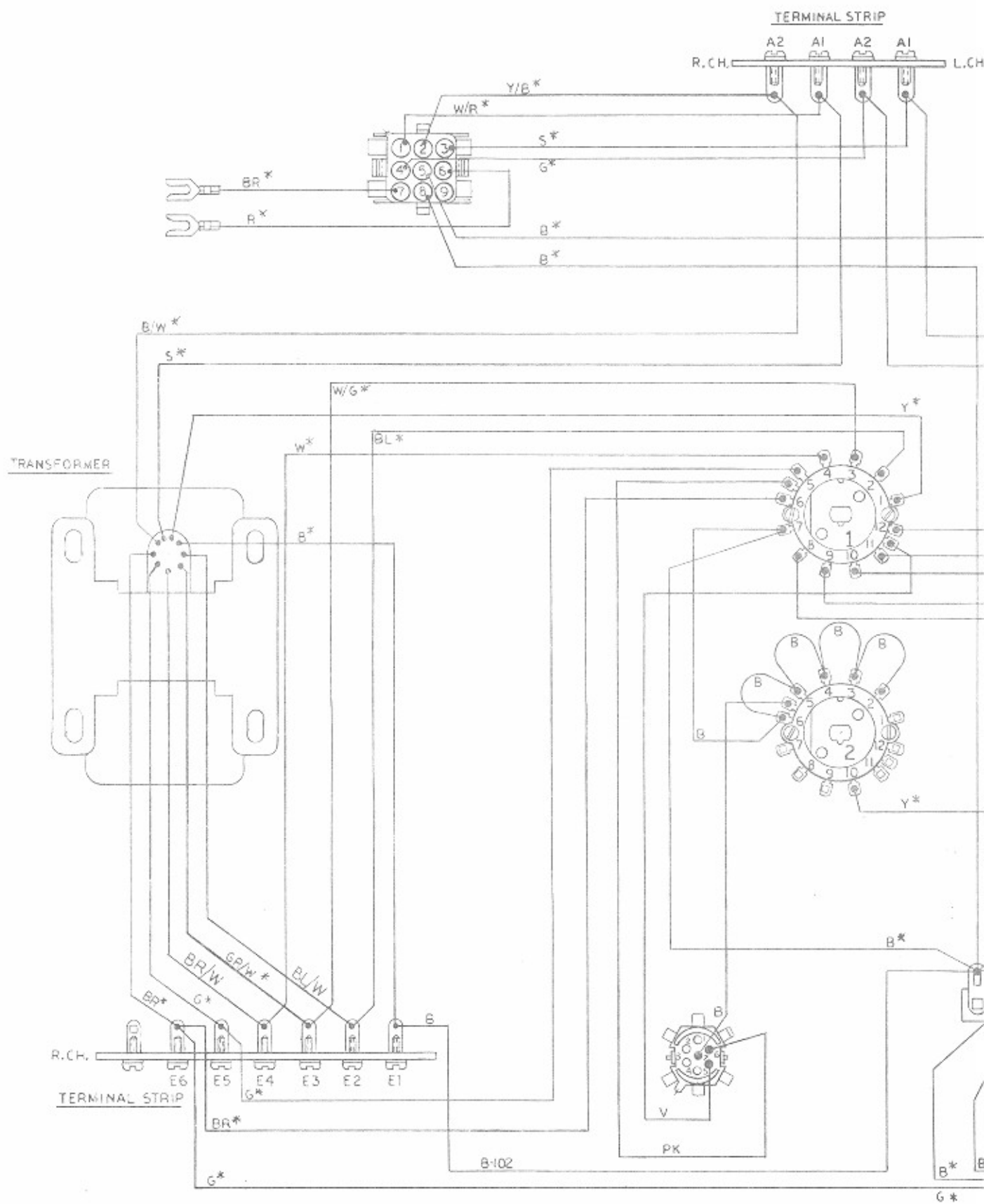
WIRE COLOR

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



400-05050 [F]

FIGURE 6-14. SEARCH UNIT ASSEMBLY WIRING DIAGRAM



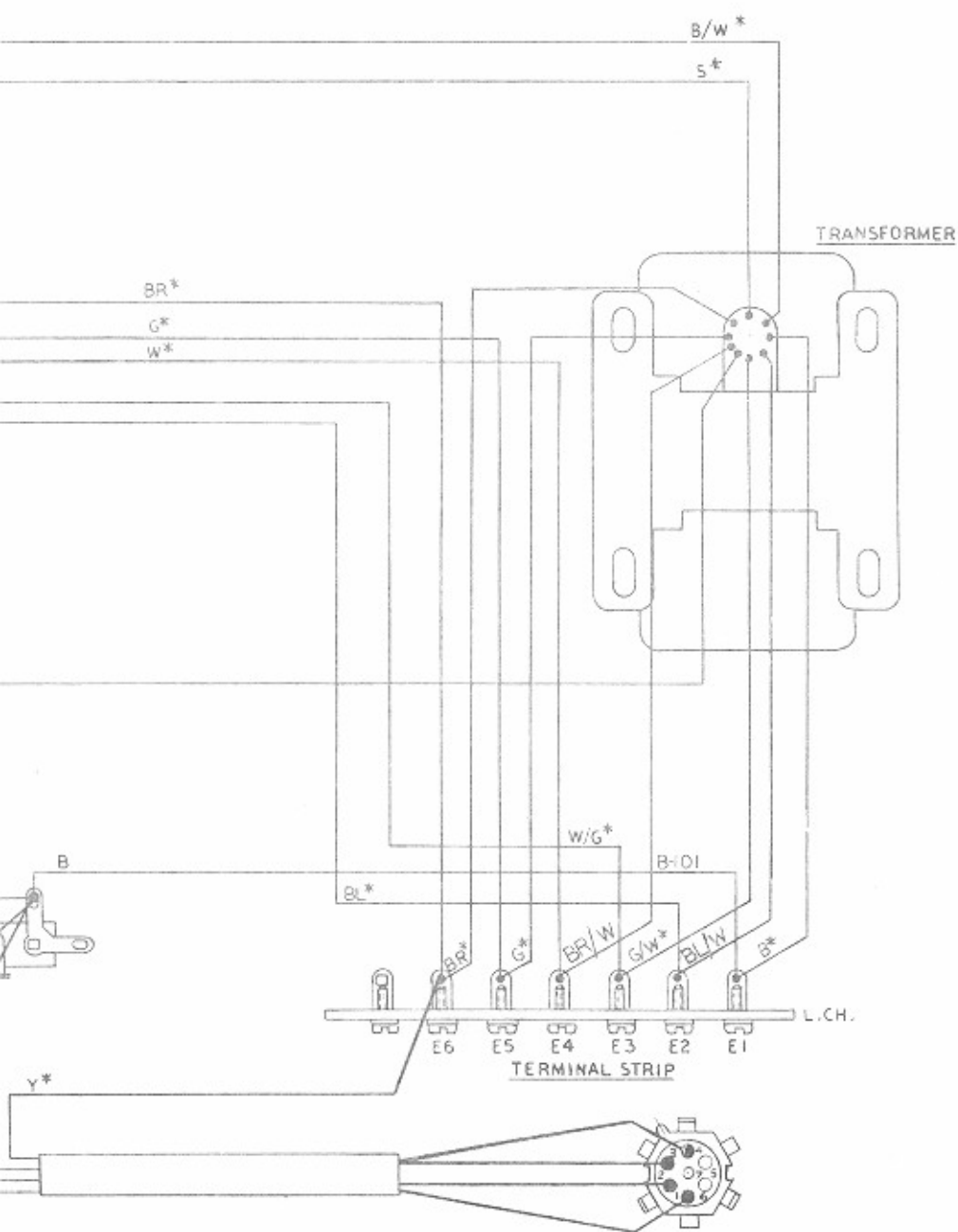


FIGURE 6-11. 64 WATT OUTPUT TRANSFORMER PACKAGE, WIRING DIAGRAM

Parts Catalog
**Model
R-80**



Rowe international, inc.

A SUBSIDIARY OF TRIANGLE INDUSTRIES, INC.

75 TROY HILLS RD., WHIPPANY, N.J. 07981, TEL. (201) 887-0400, CABLE: ROVENO

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SECTION 7-PARTS CATALOG

INTRODUCTION

This parts catalog lists procurable replacement parts for the R-80 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 23 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, i.e. Figure 1, Sheet 1, Figure 1, Sheet 2.

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.

Standard hardware is indicated on each illustration by code letters which are defined in the Standard Hardware List at the rear of the catalog.

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 illustration i.e. a A, 1 B, 1 C.

The Parts List contains four columns:

- Items are listed for reference purposes only.
- The assembly listed has all piece parts indexed below.
- The item listed is an alternate part.
- Two or more assemblies are listed together in one illustration and the same parts are used but in different quantities.

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.

FIGURE
1

Phonograph Final Assembly Sheet 1

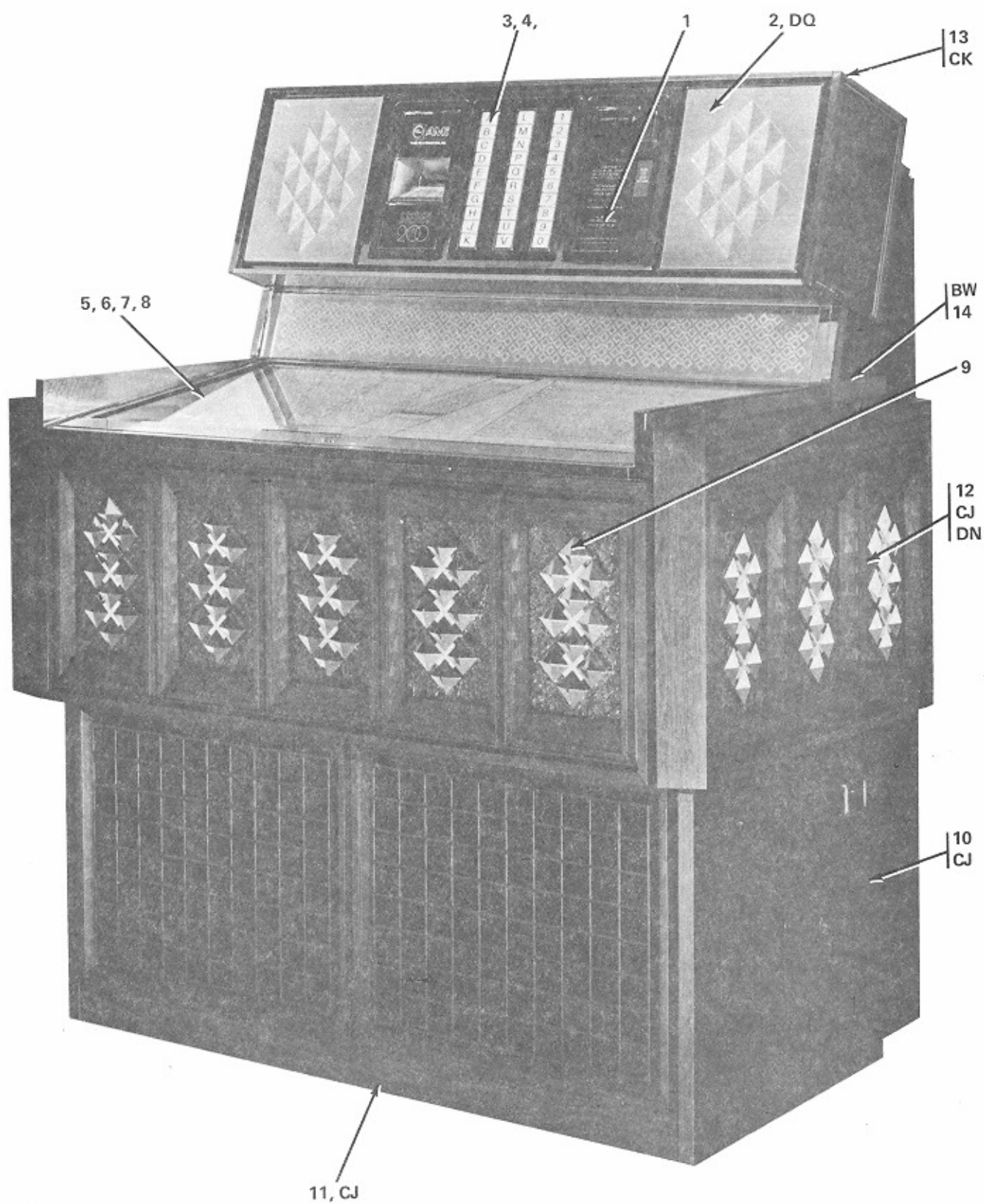


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	601-08000	Phonograph Final Assembly, Model R-80, Wood Style	
1-	602-08000	Phonograph Final Assembly, Model R-80, Scene Style	
	204-17305	Accessories Bag Assembly	1
	703-00926	Solder Socket Contact, Mate-N-Lok	1
	704-00926	Solder Pin Contact, Mate-N-Lok	1
	716-00913	Slip-on Terminal Lug	10
	710-00926	Pin Contact	1
	711-00926	Socket Contact	1
	701-00975	Universal Pin Contact	1
	702-00975	Universal Pin Contact	1
	701-00720	2 Amp Cartridge Fuse	2
	707-00720	1/4-Amp Cartridge Fuse (Credit Computer)	1
	301-07442	Decorative Panel (Covers Bill Acceptor openings when no B.A. is used)	1
	201-17557	Insert Retainer (Used to hold decorative panel above)	1
1	301-07614	Universal Price Card	1
	601-07681	Universal Price Selection Card	1
2	603-07587	Selector and Speaker Panel Assembly (See Figure 2)	1
3	602-07555	Selector Assembly (See Figure 3)	1
4	201-17501	Stud	2
5	603-07589	Top Door Assembly (See Figure 4)	1
6	201-17528	Hinge Pin	2
7	703-01430	Retaining Ring	2
8	710-01430	Retaining Ring	2
9	601-08056	Front Door Assembly, Wood Style (See Figure 5)	1
9	602-08056	Front Door Assembly, Scene Style (See Figure 5)	1
10	401-06956	R.H. Side Panel Overlay	1
	401-06955	L.H. Side Panel Overlay	1
11	401-06954	Kick Panel	1
12	601-08055	Side Panel Assembly, R.H. Wood Style (See Figure 6)	1
12	602-08055	Side Panel Assembly, R.H. Scene Style (See Figure 6)	1
	601-08054	Side Panel Assembly, L.H., Wood Style (See Figure 6)	1
	602-08054	Side Panel Assembly, L.H., Scene Style (See Figure 6)	1
13	602-07591	Top Access Door Assembly (See Figure 7)	1
14	401-06801	Side Trim, R.H.	1
	401-06800	Side Trim, L.H.	1

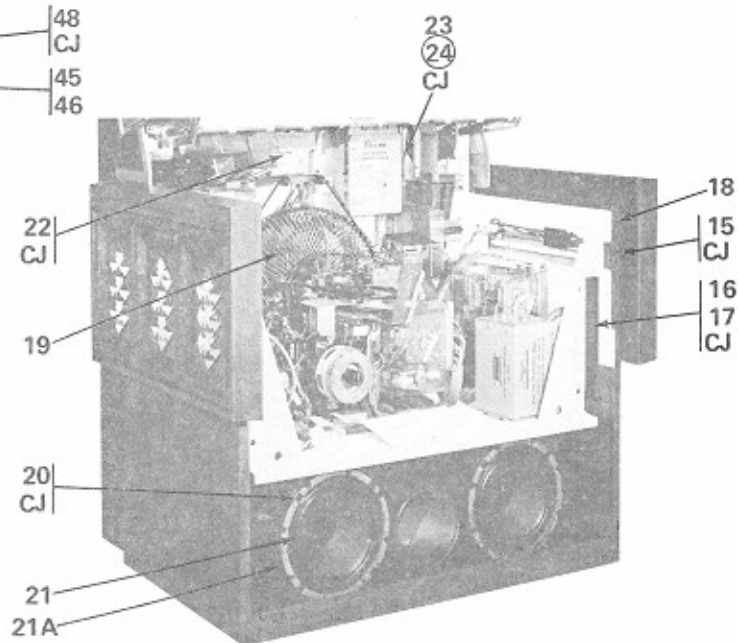
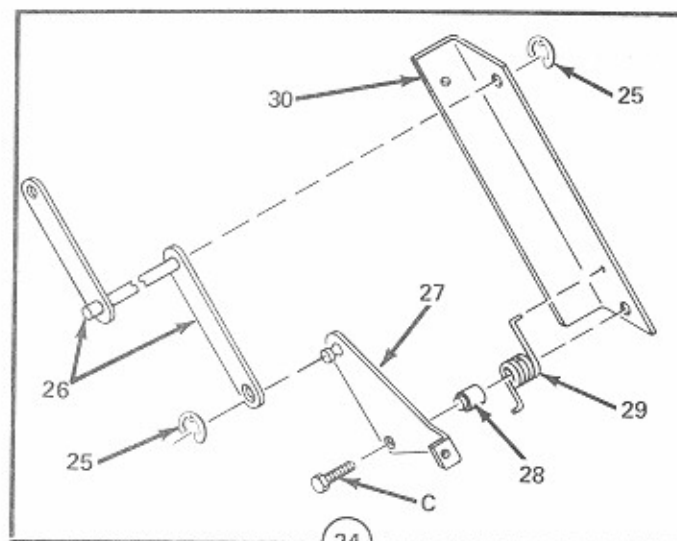
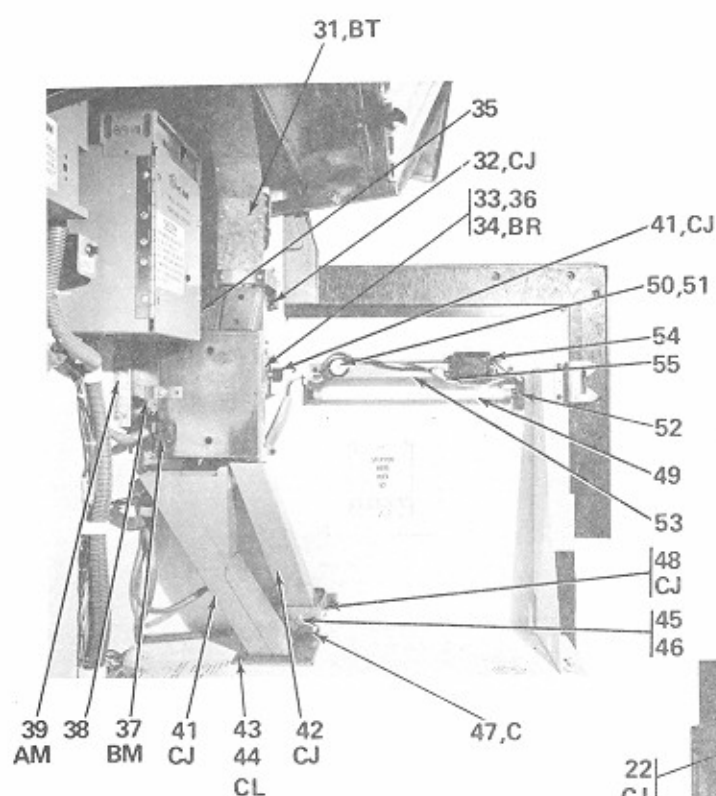


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	601-08000	Phonograph Final Assembly, Model R-80, Wood Style (continued)	
1-	602-08000	Phonograph Final Assembly, Model R-80, Scene Style (continued)	
15	201-17525	Front Door Catch	2
16	201-17607	Front Door Light Block	2
17	301-07632	Front Door Pivot	2
18	703-02204	Foamed Tape	2
19	605-03060	Record Changer Mechanism Assembly (See Figure 8)	1
	200-11537	Lower Spring Support (Under Mechanism Assembly - Not Shown)	4
20	201-08795	Retainer Bracket (2 on Rear of Cabinet)	10
21	402-06480	Low Frequency Speaker	2
21A	201-17611	Acoustical Pad	1
22	601-07593	MOS Credit Computer Assembly	1
23	201-17555	Scavenge Bracket	1
24	401-06830	Scavenge Assembly	1
25	704-01430	Retaining Ring	2
26	201-17566	Pivot Assembly	1
27	201-17591	Link and Pin Assembly	1
28	201-17562	Spacer	1
29	201-17565	Torsion Spring	1
30	201-17550	Scavenge Bracket	1
31	401-06829	Upper Coin Chute Assembly	1
32	201-17140	Alignment Bracket	1
	401-06877	Rejector and Coin Switch Assembly	1
33	201-17179	Rejector Hinge	1
34	201-14314	Plate and Pin Assembly	1
35	401-05793	Mounting Bracket Assembly	1
36	400-05476	Slug Rejector (50¢)	1
36	400-05470	Slug Rejector	ALT
	200-14114	Spacer (Used with 400-05476 only)	1
37	301-07475	Coin Switch Assembly (4 Coin)	1
38	201-08795	Retainer Bracket	1
39	201-17533	Hinge Support	1
40	201-14295	Rejector Catch Assembly	1
41	401-06825	Lower Coin Chute Assembly	1
42	401-06831	Slug Chute Assembly	1
43	301-07437	Coin Chute Collar	1
44	201-17544	Coin Chute Gasket	1
45	202-13578	Elastic Stop Nut, 6-32	1
46	702-01200	Flat Washer	1
47	201-06463	Slug Cup and Door Assembly	1
48	301-07441	Slug Cup Mounting Bracket	1
49	702-00601	3W Fluorescent Lamp, Type T-5, 12-inch	2
50	701-00800	Fluorescent Starter, Type T-5-2	2
	601-08075	Harness and Light Assembly	1
51	200-00295	Starter Socket	2
52	201-17737	Lamp Holder	4
53	401-06839	Light Bracket	2
54	201-17308	6W Ballast	2
55	703-00990	Yellow Insulated Parallel Splice	6
	302-07491	Universal Connector Plug Connector	1
	202-17322	Mate-N-Lok Socket Housing, 3 Circuit	1
	202-17323	Mate-N-Lok Pin Housing, 3 Circuit	1

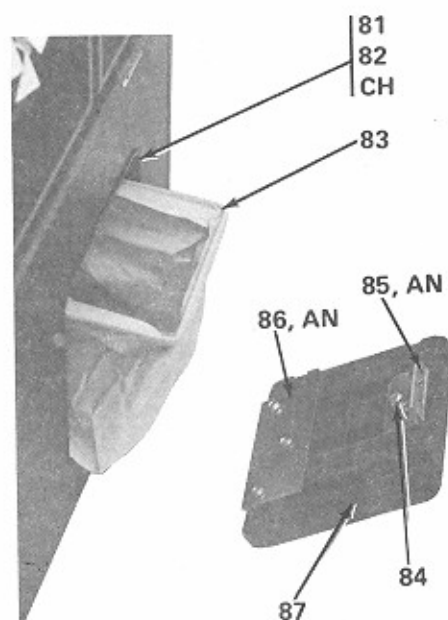
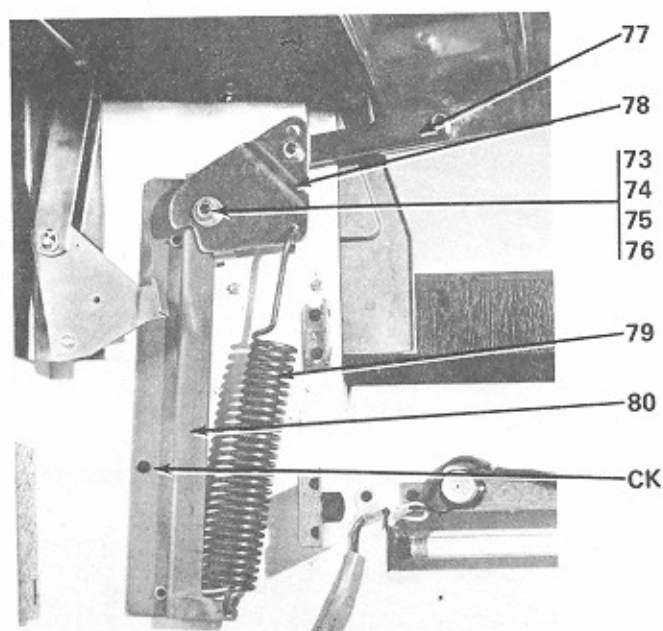
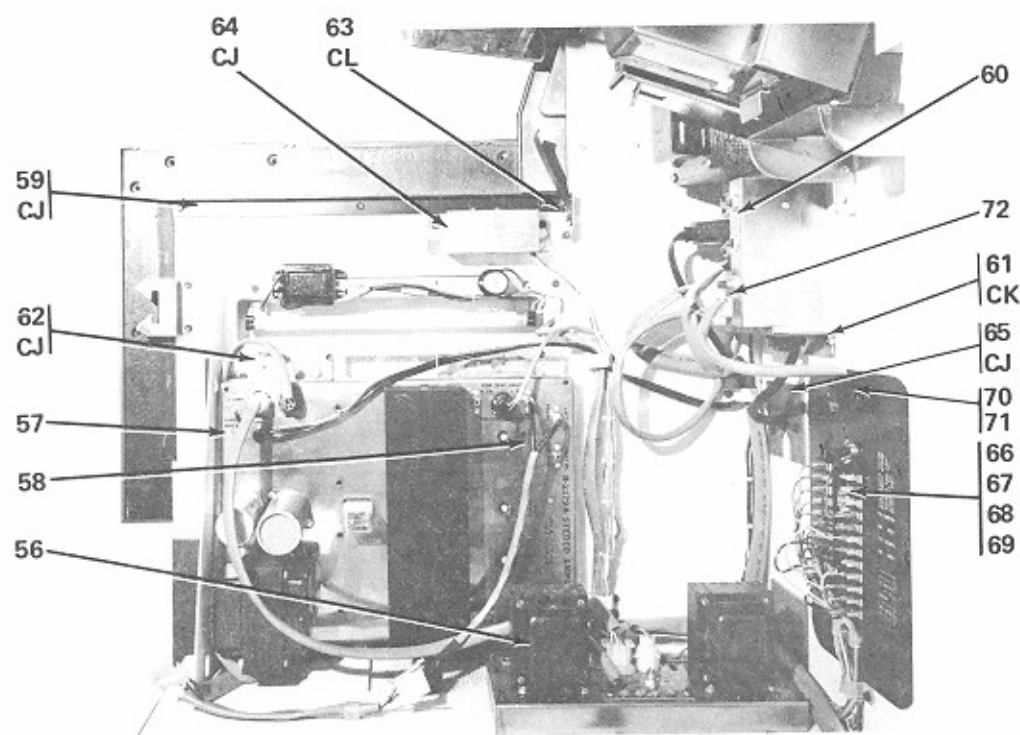


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	601-08000	Phonograph Final Assembly, Model R-80, Wood Style (continued)	
1-	602-08000	Phonograph Final Assembly, Model R-80, Scene Style (continued)	
	602-02182	Stereo Amplifier and Transformer Assembly, 64W	1
	601-07406	Stereo Amplifier and Transformer Assembly, 120W	1
56	403-06322	Output Transformer Assembly (64W) (See Figure 19)	1
56	401-06336	Output Transformer Assembly (120W) (See Figure 19)	1
57	601-02179	Stereo Amplifier Assembly, 64W	1
57	601-07405	Stereo Amplifier Assembly, 120W	1
	602-03758	Pre-Amplifier Assembly (See Schematic, page 6-23 for Parts)	1
	601-02193	Power Amplifier Assembly, 64W (See Schematic, page 6-10 for Parts)	1
	601-07404	Power Amplifier Assembly, 120W (See Schematic, page 6-13 for Parts)	1
	201-17666	4 Channel Amplifier Kit	OPT
	201-15289	4 Channel Installation Chart	1
	201-17660	Quad Insert	1
	401-06903	Back Trim Insert	1
	601-07411	4 Channel Amplifier with Transformer Packages (See Figure 21)	1
58	203-09257	Tone Arm Cable and Plug Assembly	1
59	201-17570	Top Door Support Rail	2
60	401-06703	Junction Box Assembly (See Figure 20)	1
61	200-09256	Junction Box Mounting Bracket	1
62	401-02426	Amplifier Mounting Bracket Assembly	1
63	201-17727	Spring Assembly	1
64	602-07590	Harness and Console Assembly (See Figure 22)	1
65	201-17593	Cord Hole Cover	1
66	201-13935	Volume Control and Terminal Assembly	1
67	200-02649	Palnut	1
68	200-01799	Volume Control Knob	1
69	205-14101	Cable and Plug Assembly	1
70	200-00490	Internal Tooth Lock Washer	1
	204-17320	Plug and Switch Assembly	1
71	207-13081	Cord and Switch Assembly	1
72	203-17323	6 Circuit Mate-N-Lok Pin Housing	1
	702-00934	Cable Clamp	16
	703-00931	Cable Clamp	2
	705-00931	Cable Clamp	1
	708-00931	Cable Clamp	9
	304-07622	Spring Assembly	1
73	204-13578	Elastic Stop Nut	2
74	708-01214	Flat Washer	1
75	200-13900	Lever Pin	2
76	719-01208	Flat Washer	1
77	202-15671	Spring Link	1
78	201-17725	Spring Lever	1
79	301-06994	Spring	1
80	301-07621	Spring Support	1
81	414-05276	Cash Box Door Frame	1
82	200-11449	Speed Clip	1
83	301-07026	Cash Bag	1
	210-11866	Cash Box Door Assembly	1
84	716-01600	Cylinder Lock	1
85	200-06695	Lock Support	1
86	200-07703	Catch Bracket	1
87	616-03267	Cash Box Door	1

FIGURE

1

Phonograph Final Assembly Sheet 4

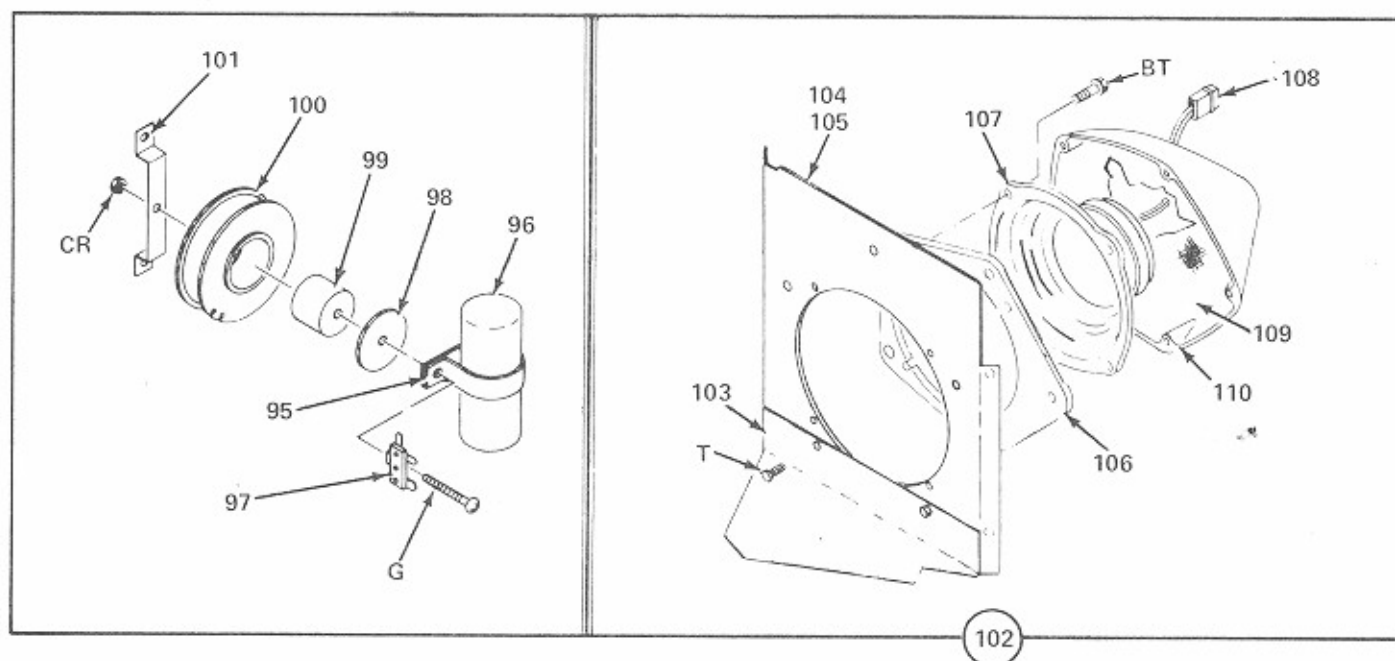
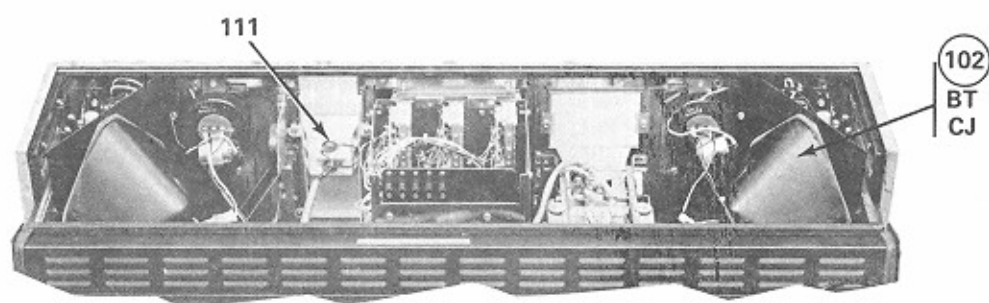
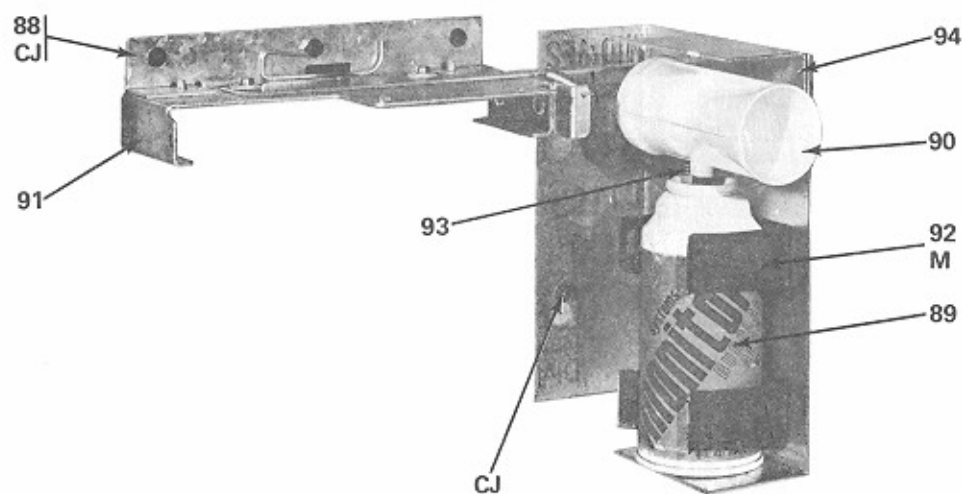


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
1-	601-08000	Phonograph Final Assembly, Model R-80, Wood Style (continued)	
1-	602-08000	Phonograph Final Assembly, Model R-80, Scene Style (continued)	
88	402-06495	Cash Bag Support	1
	202-15303	Burglar Alarm Kit	OPT
89	201-17228	Alarm Power Pack	1
90	301-07284	Horn	1
91	401-06345	Lever Assembly	1
	401-06344	Horn Mounting and Actuator Assembly	1
92	201-51481	Spring Clip	2
93	200-14024	Handle Return Spring	1
94	201-15297	Bracket and Actuator	1
	303-06284	Speaker Network Assembly (Mounted in Bottom of Cabinet)	1
95	712-00931	Cable Clamp	1
96	200-14853	68 Mfd Electrolytic Capacitor, 50V	1
97	200-13244	Terminal Strip	1
98	704-01200	Flat Washer	1
99	710-01211	Spacer	1
100	201-14852	10 mH Inductor	1
101	200-09297	Mounting Bracket	1
102	401-06827	Speaker Assembly, L.H.	1
	401-06828	Speaker Assembly, R.H.	1
103	301-07481	Light and Sound Block, L.H.	1
	301-07482	Light and Sound Block, R.H.	1
104	401-06851	Speaker Mounting Bracket, L.H.	1
	401-06852	Speaker Mounting Bracket, R.H.	1
105	208-03709	Eyelet	4
106	300-06162	Speaker Gasket	1
107	401-06882	Mid/High Frequency Speaker	1
108	206-12445	2 Circuit Mate-N-Lok Pin Housing	1
109	200-13265	Acoustical Pad	2
110	600-02583	Speaker Cover	1
111	200-50562	Pilot Lamps (Credit Lights)	2
112	601-08050	Shell Assembly (See Figure 23)	1

FIGURE
2

Selector and Speaker Panel Assembly

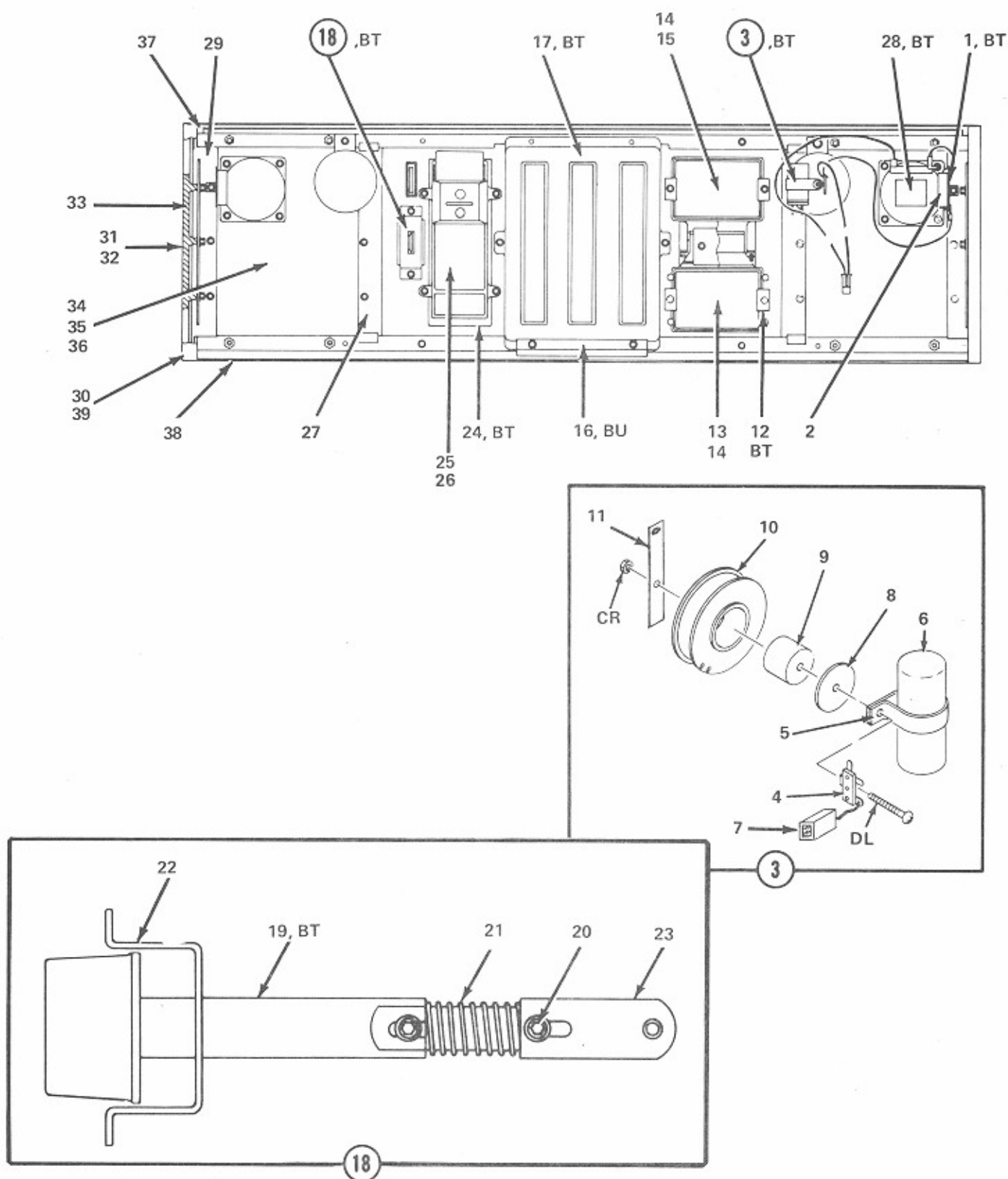


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
2-	603-07587	Selector and Speaker Panel Assembly (Figure 1, Item 2)	REF
	203-14957	Speaker Capacitor Assembly	2
1	200-14952	Strip, Terminal	1
2	200-11455	Capacitor, Speaker, 2.5 MFD, 50V (Midwec Type M3-240)	1
3	301-07485	Speaker Network Assembly (Mid-Range)	2
4	200-13244	Strip, Terminal	1
5	716-00931	Clamp, Cable	1
6	201-17612	Capacitor, AC Electrolytic, 12.5 MFD, 50V	1
7	207-12444	Housing Socket, Mate-N-Lok, 2 Circuit	1
8	704-01200	Washer, Flat	1
9	710-01211	Spacer	1
10	201-17614	Inductor, 10 mH	1
11	201-17585	Cross-Over Network Mounting Bracket	1
12	201-17594	Retainer	4
13	201-17510	Panel, Product Identification	1
14	201-17509	Window, Legend ("B" Glass, Double Strength, 4"x2-3/4"x.115/.133 Thk.)	2
15	201-17511	Panel, Stereo	1
16	201-17504	Retainer	1
17	401-06816	Selector Panel Insert Assembly	1
18	301-07471	Shaft and Stop Assembly	1
19	201-17507	Button and Shaft Assembly	1
20	202-09225	Spacer	2
21	201-17656	Spring, Compression	1
22	301-07411	Bracket, Stop	1
23	201-17564	Shaft and Pin Assembly	1
24	601-07673	Light Housing	1
25	201-17581	Background, Price Card	1
26	301-07412	Window Price Card ("B" Glass, Double Strength, 7-7/8"x2-7/8"x.115/.133 Thk.)	1
27	401-06815	Selector-Coin Insert Assembly	1
28	300-06788	Speaker, High Frequency	2
29	401-06840	Bracket, Trim	2
30	401-06869	Retainer, Top Panel, L.H.	1
	401-06870	Retainer, Top Panel, R.H.	1
31	601-07581	Grille, Side	2
32	301-07484	Backing, Grille, Side	2
33	601-07563	Trim, Side Speaker, R.H.	1
	601-07562	Trim, Side Speaker, L.H.	1
34	601-08052	Grille, Front	2
35	301-07483	Backing, Grille, Front	2
36	601-07561	Trim, Front Speaker	2
37	401-06817	Bar, Trim, Upper	1
38	401-06818	Bar, Trim, Lower	1
39	202-15726	Fall Stop Cable	1

FIGURE
3

Selector Assembly

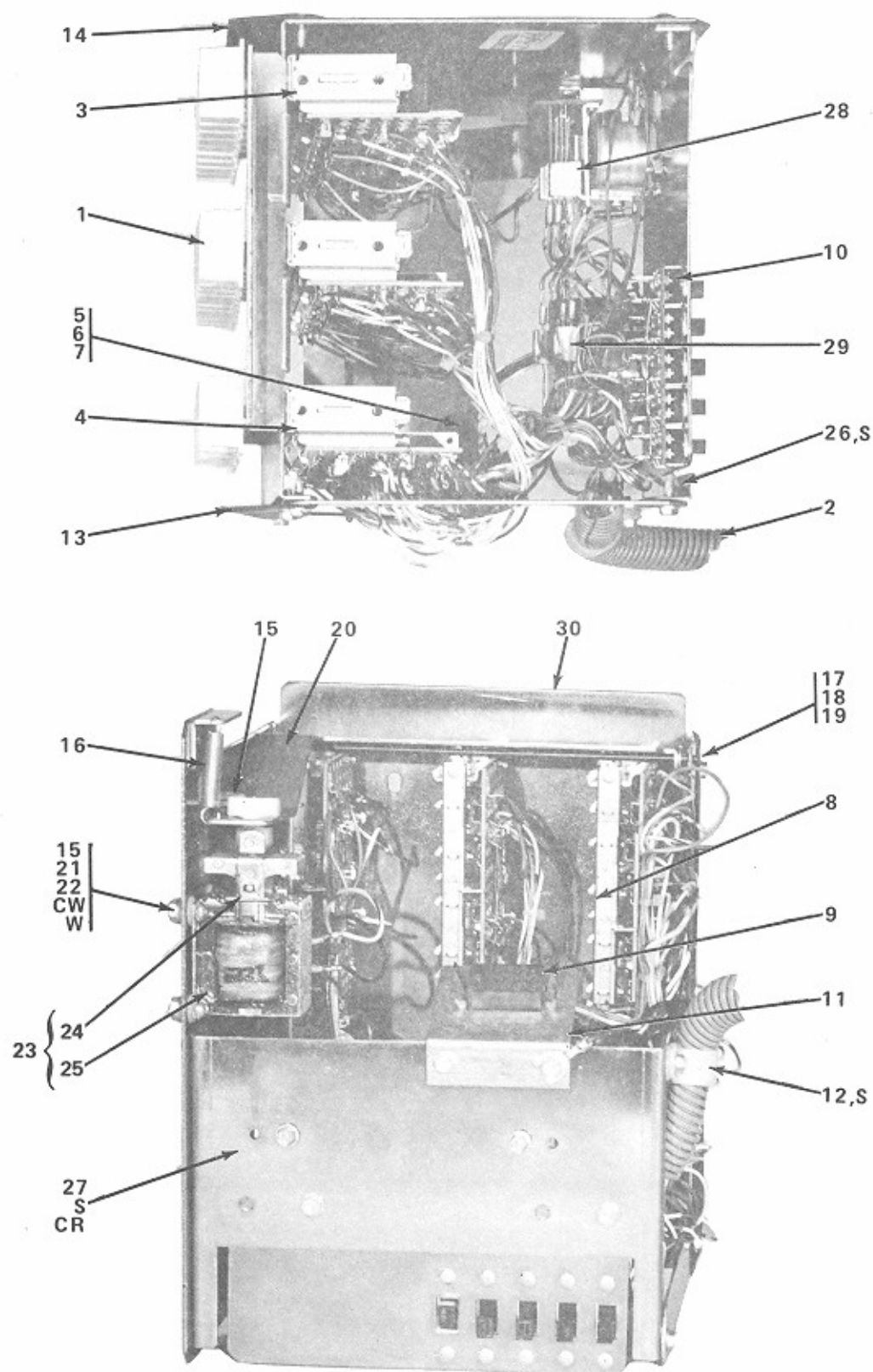


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
3-	602-07555	Selector Assembly (Figure 1, Item 3)	REF
1 each		The Following Pushbuttons:	
	301-07403 "A"	312-07403 "L"	301-07404 "1"
	302-07403 "B"	313-07403 "M"	302-07404 "2"
	303-07403 "C"	314-07403 "N"	303-07404 "3"
	304-07403 "D"	316-07403 "P"	304-07404 "4"
	305-07403 "E"	317-07403 "Q"	305-07404 "5"
	306-07403 "F"	318-07403 "R"	306-07404 "6"
	307-07403 "G"	319-07403 "S"	307-07404 "7"
	308-07403 "H"	320-07403 "T"	308-07404 "8"
	310-07403 "J"	321-07403 "U"	310-07404 "9"
	311-07403 "K"	322-07403 "V"	311-07404 "0"
2	602-07558	Harness and Switch Assembly	1
	300-05210	Edge Connector, 30 Contact	1
3	401-06803	Letter Pushbutton Switch	2
4	401-06958	Number Pushbutton Switch	1
5	702-00350	Diode, Silicon (1N 4002)	5
6	703-00222	Capacitor, Ceramic Disc, 0.02 MFD, 500V	2
7	706-00104	Resistor, Carbon, 1.8K, 1/2W	1
8	702-00375	Metal Oxide Varistor (G.E. V40 LA2A)	1
9	204-12444	Socket, Housing, Mate-N-Lok, 12 Circuit	1
10	302-07402	Slide Switch Assembly	1
11	202-14592	Mounting Bracket	1
12	708-00931	Cable Clamp	1
13	201-17604	Selector Light Block	1
14	201-17605	Selector Light Block	1
15	200-14828	Grommet	5
16	200-10836	Tension Spring	1
17	701-01430	Retaining Ring	2
18	724-01206	Flat Washer	1
19	201-17502	Shaft	1
20	301-07401	Latch Actuating Lever	1
21	210-13578	Elastic Stop Nut, No. 6-32	4
22	200-14756	Grommet Bushing	4
23	201-17137	Solenoid and Push Rod Assembly	1
24	200-14754	Push Rod	1
25	201-17100	AC Solenoid	1
26	201-17500	Brace	1
27	401-06812	Selector Back	1
28	200-14508	Start Relay (R5)	1
29	200-14827	Select Pulse and Latch Relay (R1)	1
30	601-07557	Selector Riveted Assembly	1

FIGURE
4

Top Door Assembly

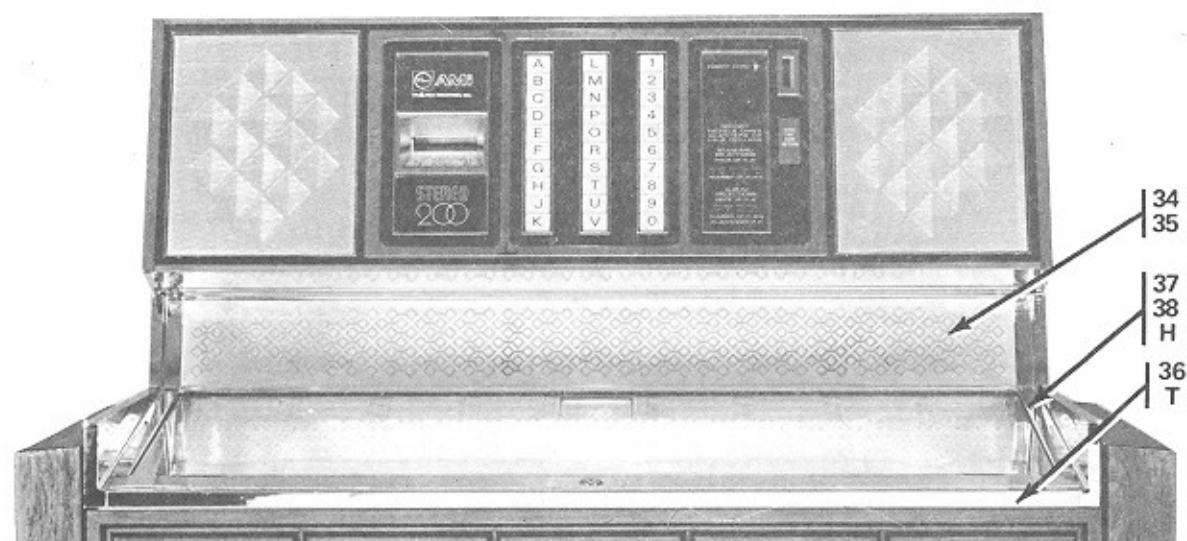
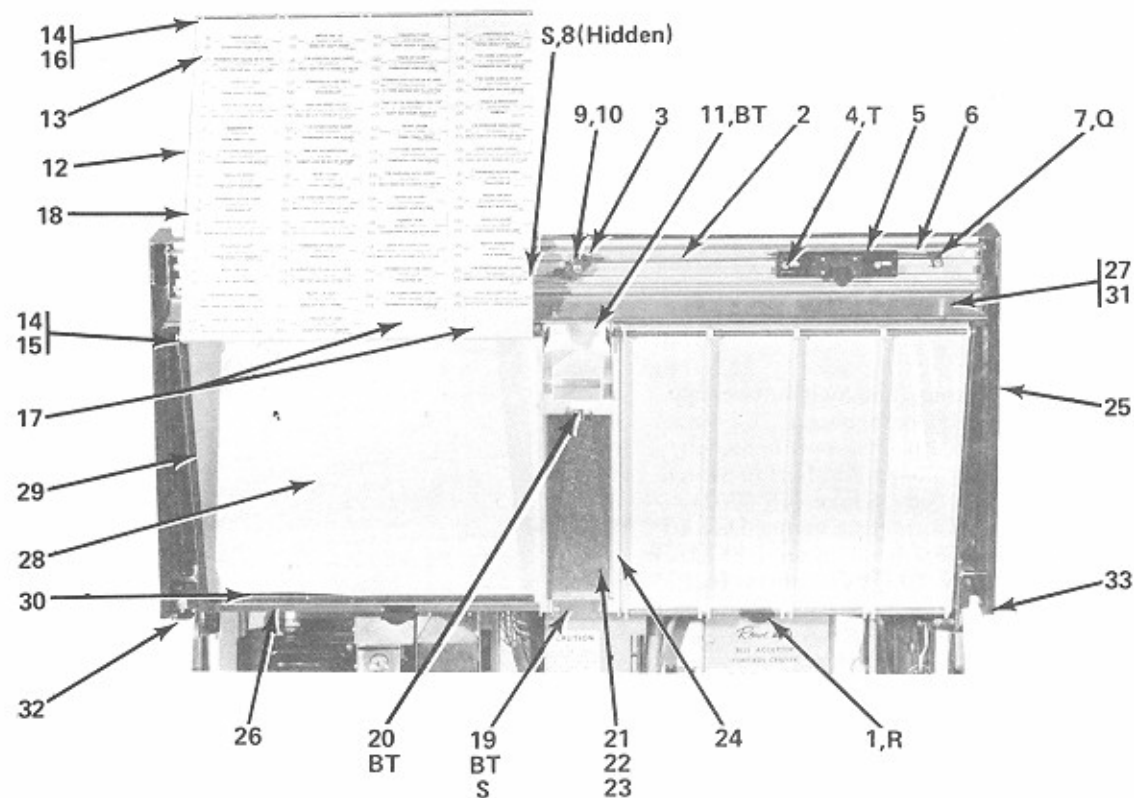


FIG AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
4	603-07589	Top Door Assembly (Figure 1, Item 5)	REF
1	201-17518	Title Panel Spring Catch	2
2	201-17657	Lock Bar Link	2
3	200-14256	Lock Bolt	1
4	202-09225	Spacer	4
5	201-17515	Lock Bar Assembly, R.H.	1
	201-17514	Lock Bar Assembly, L.H.	1
6	200-12562	Spring	2
7	201-15674	Spring Retainer	2
8	201-17532	Guide	1
9	725-01208	Washer	1
10	719-01630	Common Keying Cylinder Lock	1
11	201-17517	Pivot Bracket and Spring Assembly	1
12	401-06820	Title Panel Assembly, L.H.	1
	401-06821	Title Panel Assembly, R.H.	1
13	301-07422	Number Strip, A1 to F2, (on 401-06820)	1
	302-07422	Number Strip, G2 to M3, (on 401-06820)	1
	303-07422	Number Strip, N3 to R4, (on 401-06820)	1
	304-07422	Number Strip, S4 to V5, (on 401-06820)	1
	305-07422	Number Strip, A6 to D7, (on 401-06821)	1
	306-07422	Number Strip, E7 to H8, (on 401-06821)	1
	307-07422	Number Strip, J8 to P9, (on 401-06821)	1
	308-07422	Number Strip, Q9 to Y0, (on 401-06821)	1
14	703-01430	Retaining Ring	4
15	201-17519	Bottom Rod	1
16	201-17520	Top Rod	1
17	201-17628	Title Rack Insert	2
18	601-07571	Title Rack	4
19	201-17548	Record Playing Frame Mounting Bracket	1
20	201-17554	License Holder Retainer Bracket	1
21	201-17551	License Holder Bracket	1
22	201-17552	License Cover	1
23	201-17553	License Card	1
24	601-07564	Record Playing Frame	1
25	719-02129	Foamed Tape	2
26	725-02203	Foamed Tape	1
27	201-17516	Diffuser	2
28	301-07416	Top Door Window	1
29	208-15794	Channel, 14-3/4" Long	2
30	210-15794	Channel, 34-3/8" Long	2
31	721-02203	Foamed Tape	1
32	201-17738	Light Block and Reset Assembly	1
33	201-17541	Light Block	1
34	401-06928	Back Trim Insert	1
35	401-06808	Back Trim	1
36	401-06953	Front Trim	1
37	301-07418	Door Support Side	2
38	601-07559	L.H. Door Support	1
	601-07560	R.H. Door Support	1

FIGURE
5

Front Door Assembly

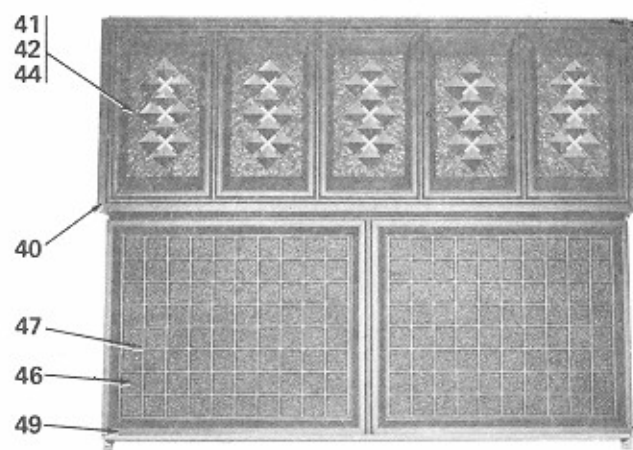
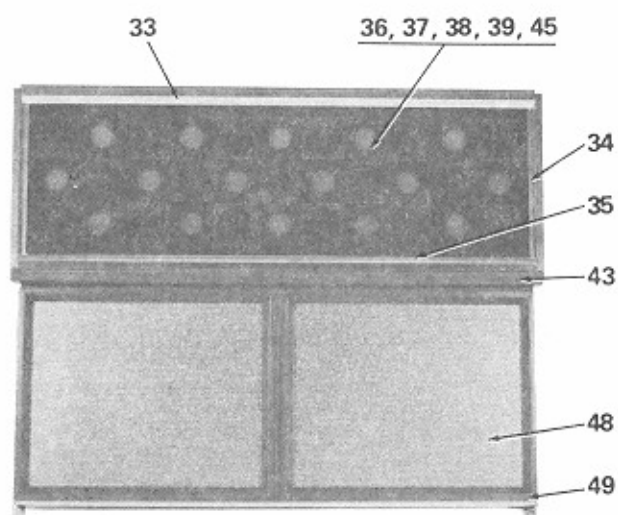
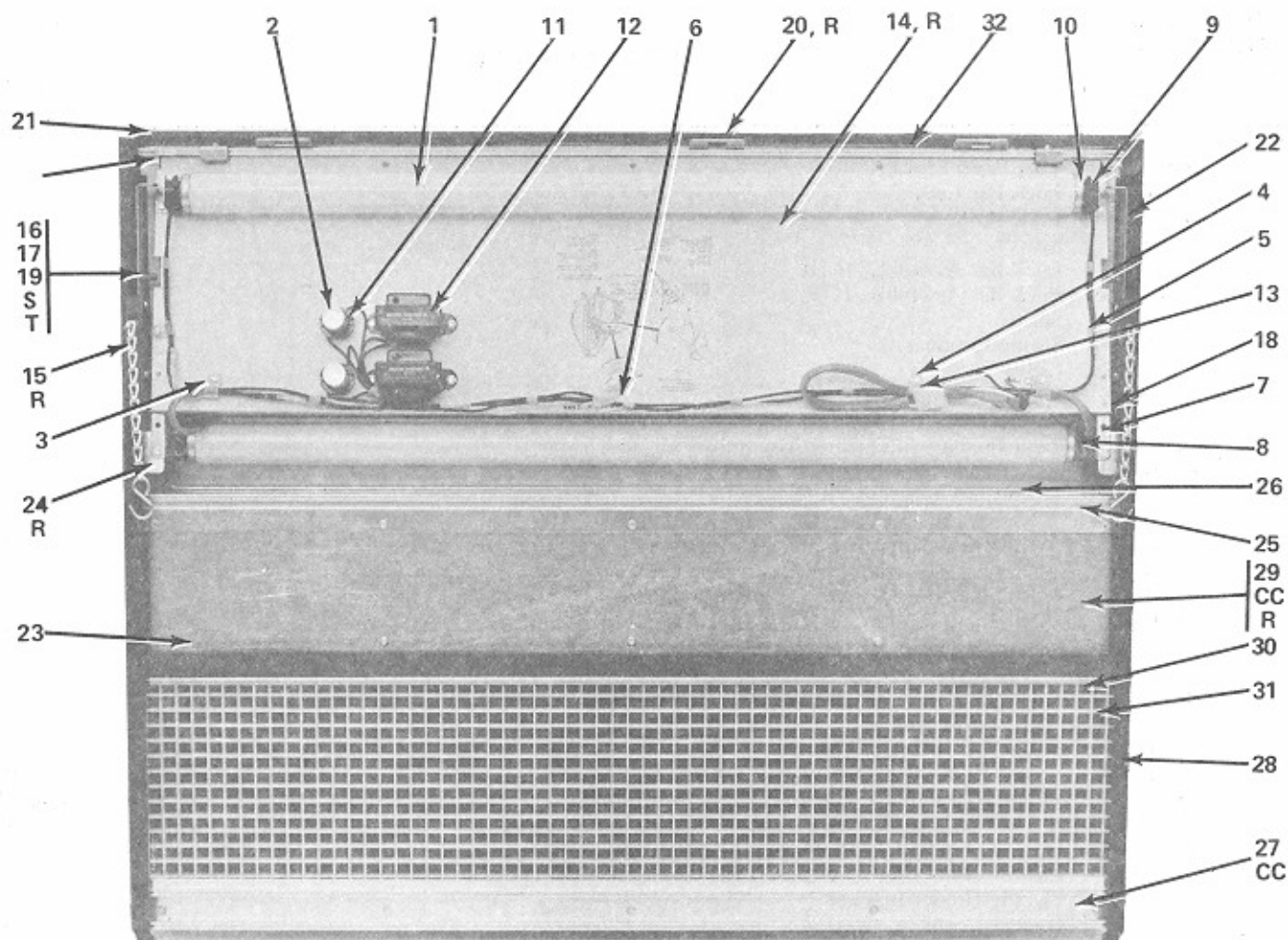


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
5-	601-08056	Front Door Assembly, Wood Style (Figure 1, Item 9)	REF
5-	602-08056	Front Door Assembly, Scene Style (Figure 1, Item 9)	REF
1	706-00601	Fluorescent Lamp, 25W, 33 in., Type T-12	2
2	703-00800	Fluorescent Starter, FS-25	2
	601-08066	Reflector Panel Assembly	1
3	704-00931	Cable Clamp	2
4	705-00931	Cable Clamp	1
5	702-00931	Cable Clamp	2
6	200-07545	Cable Clip	1
	403-06838	Front Door Harness Assembly	1
7	202-17630	Lower Lampholder Bracket, L.H.	1
	202-17631	Lower Lampholder Bracket, R.H.	1
8	207-15808	Fluorescent Lampholder	2
9	201-17707	Upper Lampholder Bracket, L.H.	1
	201-17708	Upper Lampholder Bracket, R.H.	1
10	208-15808	Fluorescent Lampholder	2
11	200-00295	Starter Socket	2
12	200-13801	25W Ballast	2
13	302-07490	Universal Connector Cap Housing, 3 Contact	1
14	601-08058	Reflector Panel	1
15	200-14958	Fall Stop	2
16	202-11100	Thrust Washer	4
17	202-09225	Spacer	4
18	200-14941	Tension Spring	2
19	201-17549	Latch Assembly	2
20	201-17537	Strike Plate	3
21	708-02201	Foamed Tape	1
22	723-02203	Foamed Tape	2
23	705-02204	Foamed Tape	1
24	201-17587	Mounting Bracket	2
25	401-06935	Center Tie Bar (Wood Style Only)	1
26	202-17608	Diffuser	1
27	401-06887	Bottom Tie Bar	1
28	601-08063	L.H. Front Door Support	1
	601-08064	R.H. Front Door Support	1
29	301-07601	Lower Grille Backing	1
30	401-06934	Grille Support	1
31	301-07602	Bottom Grille Foam Pad	1
32	401-06938	Top Tie Bar (Wood Style Only)	1
33	401-06940	Top Window Trim (Scene Style Only)	1
34	401-06941	Window Side Trim, L.H. (Scene Style Only)	1
	401-06942	Window Side Trim, R.H. (Scene Style Only)	1
35	401-06943	Window Bottom Trim (Scene Style Only)	1
36	601-08071	Front Door Window (Scene Style Only)	1
37	203-14301	Window Channel Sides (Scene Style Only)	2
38	201-14301	Window Channel Top and Bottom (Scene Style Only)	2
39	601-08073	Front Door Scene (Scene Style Only)	1
40	601-08065	Wood Panel (Wood Style Only)	1
41	601-08067	Krinkleglas Front Panel (Wood Style Only)	1
42	601-08074	Front Door Diffuser (Wood Style Only)	1
43	601-08069	Wood Grain Trim (Scene Style Only)	1
44	401-06925	Decorative Insert (Wood Style Only)	5
45	201-17709	Retainer (Scene Style Only)	2
46	301-07603	Lower Grille (Wood Style Only)	2
47	601-08061	Grille Grid (Wood Style Only)	2
48	601-08059	Perforated Grille (Scene Style Only)	1
49	601-08057	Lower Grille Frame	1

**FIGURE
6**

Side Panel Assembly

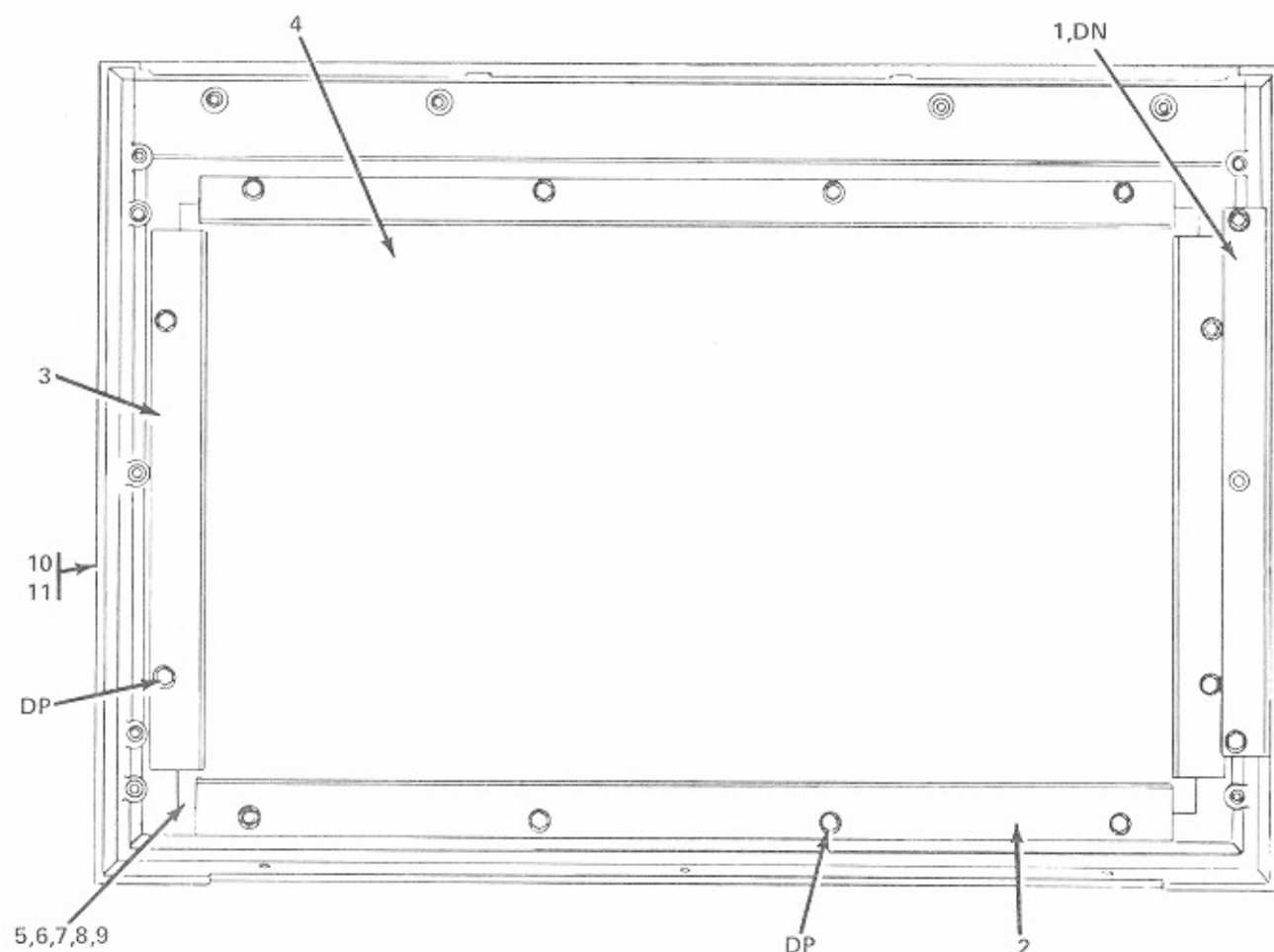


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
6-	601-08054	Side Panel Assembly, Wood Style, L.H. (Figure 1, Item 12)	REF
6-	602-08054	Side Panel Assembly, Scene Style, L.H. (Figure 1, Item 12)	REF
6-	602-08055	Side Panel Assembly, Wood Style, R.H. (Figure 1, Item 12)	REF
6-	602-08055	Side Panel Assembly, Scene Style, R.H. (Figure 1, Item 12)	REF
1	301-07430	Retainer Bracket (Side Frame)	1
2	201-17704	Long Retainer	2
3	201-17705	Short Retainer	2
4	401-06925	Decorative Insert	3
4	401-06929	Side Scene (Scene Style Only)	1
5	601-08053	Wood Insert (Wood Style Only)	1
5	401-06931	Inner Frame (Side) (Scene Style Only)	1
6	401-06930	Krinkleglas Panel (Wood Style Only)	1
6	401-06932	Side Window (Scene Style Only)	1
7	706-02121	Sponge Rubber (Scene Style Only)	2
8	707-02121	Sponge Rubber (Scene Style Only)	2
9	401-06933	Side Diffuser (Wood Style Only)	1
10	301-07600	Side Frame Overlay	1
11	601-08051	Side Frame	1

Top Access Door Assembly

FIGURE
7

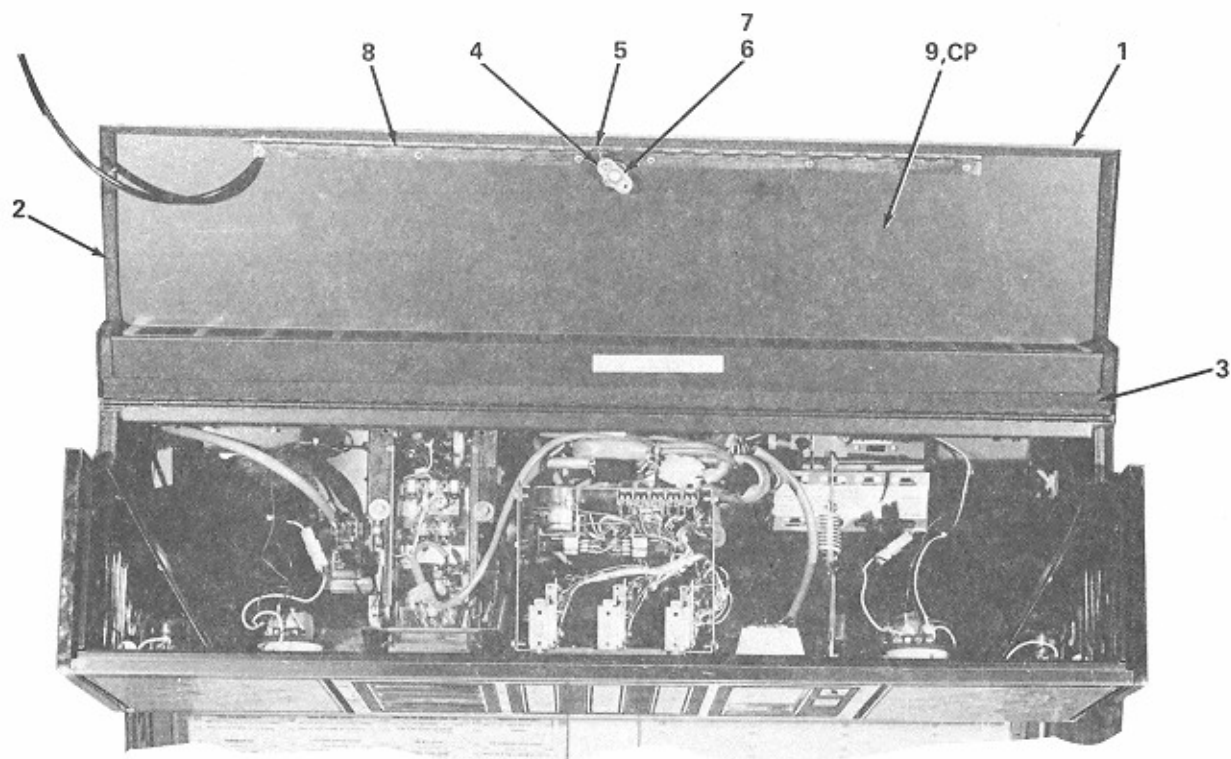


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
7-	602-07591	Top Access Door Assembly (Figure 1, Item 13)	REF
1	721-02203	Tape, Foam	2
2	725-02129	Tape, Foam	2
3	703-02121	Tape, Foam	1
4	703-01430	Ring, Retaining	1
5	201-15718	Link, Latch Bar	1
6	202-14228	Lock Bolt Assembly	1
7	719-01630	Lock, Cylinder, Common Keying	1
8	301-07435	Hinge, Latch	1
9	601-07659	Top Door Weld Assembly	1

FIGURE
8

Mechanism Assembly Sheet 1

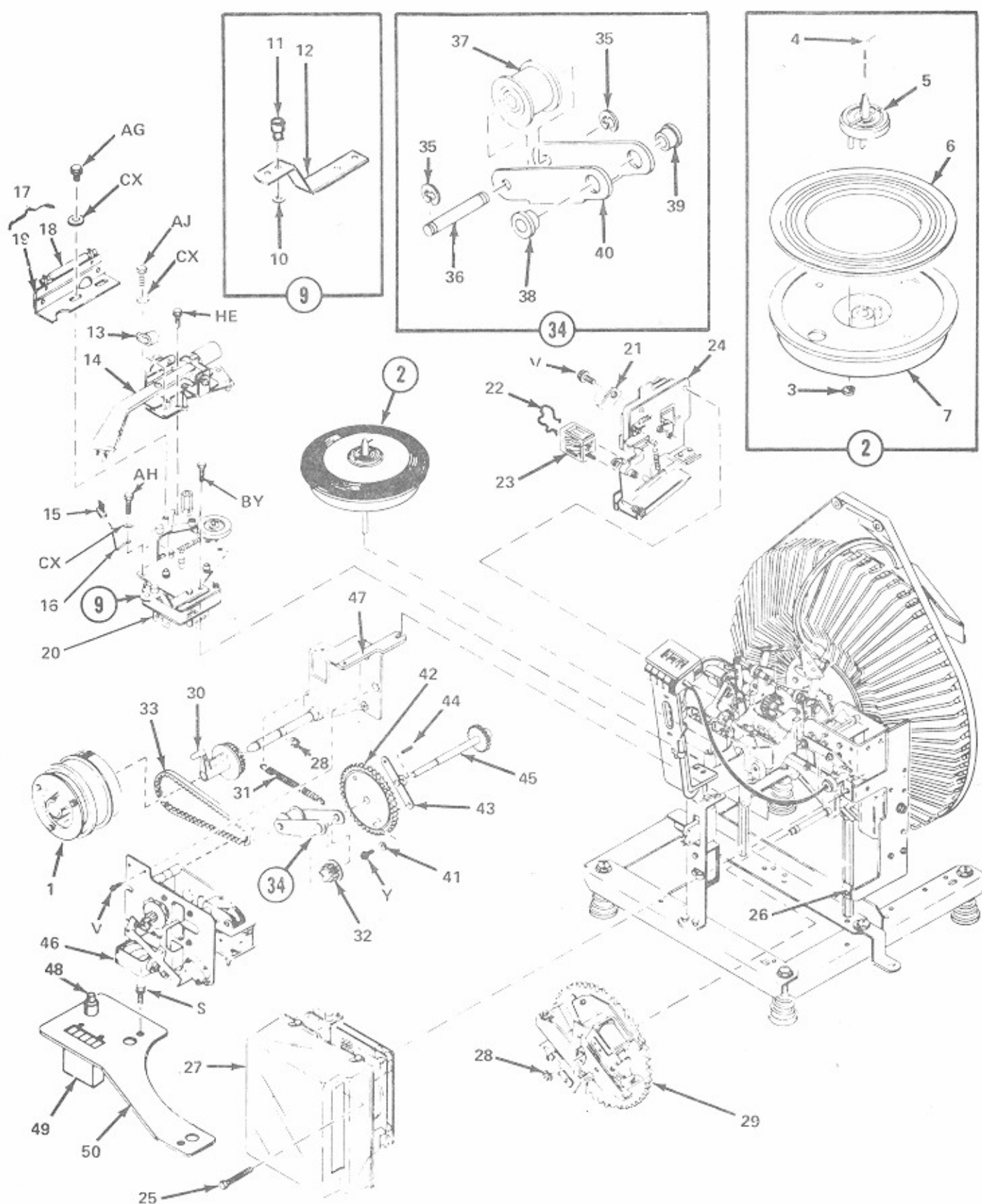


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
8-	605-03060	Mechanism Assembly (Figure 1, Item 19)	REF
1	303-05465	Playmeter Wheel Assembly (See Figure 9)	1
2	301-05237	Turntable Assembly	1
3	701-01430	Retaining Ring	1
4	200-10867	Trip Wire	1
5	201-12554	Turntable Hub	1
6	301-05235	Turntable Face	1
7	401-05069	Turntable and Shaft Assembly	1
8		Not Used	
9	201-14747	Gripper Bow Rest Assembly	1
10	202-01437	Retaining Ring	1
11	200-10897	Gripper Bow Rest	1
12	200-14710	Gripper Bow Bracket	1
13	701-00931	Cable Clamp	1
14	306-05124	Tone Arm Assembly (See Figure 10)	1
15	200-02182	Brush	1
16	200-11569	Brush Clip	1
17	201-10891	Cutoff Switch Assembly	1
18	200-10726	Reed Switch	1
19	201-10917	Terminal Board and Bracket Assembly	1
20	401-05076	Turntable Motor and Plate Assembly (See Figure 11)	1
21	702-00931	Cable Clamp	1
22	200-12869	Relay Retaining Spring	1
23	200-12751	Relay Assembly	1
24	401-05075	Cam Switch and Motor Assembly (See Figure 12)	1
25	200-10789	No. 1/4-20 Mounting Bolt	3
26	200-11587	No. 1/4-20 Speednut	2
27	406-05012	Search Unit and Pinwheel Assembly (See Figure 13)	1
28	702-01430	Retaining Ring	2
29	401-05024	Stop Switch Assembly (See Figure 15)	1
30	300-05149	Playmeter Pulley	1
31	200-10896	Tension Spring	1
32	200-10880	Pulley	1
33	201-10878	Timing Belt	1
34	201-11012	Idler Bracket Assembly	1
35	703-01430	Retaining Ring	2
36	200-10879	Idler Pin	1
37	200-03843	Belt Roller	1
38	707-01460	Bearing	1
39	706-01460	Bearing	1
40	200-10877	Idler Bracket	1
41	704-01222	External Tooth Lockwasher	2
42	301-05181	Pinion and Plate Assembly	1
43	200-10826	Gear Hub	1
44	206-01130	Roll Pin	2
45	201-11000	Magazine Drive Shaft Assembly	1
46	403-05022	Sprag Assembly (Magazine Motor)(See Figure 16)	1
47	301-05125	Motor Bracket Assembly	1
48	201-15818	Momentary Contact Switch, Pushbutton Type	1
49	201-50657	Counter Assembly	1
50	301-05242	Counter Mounting Plate	1

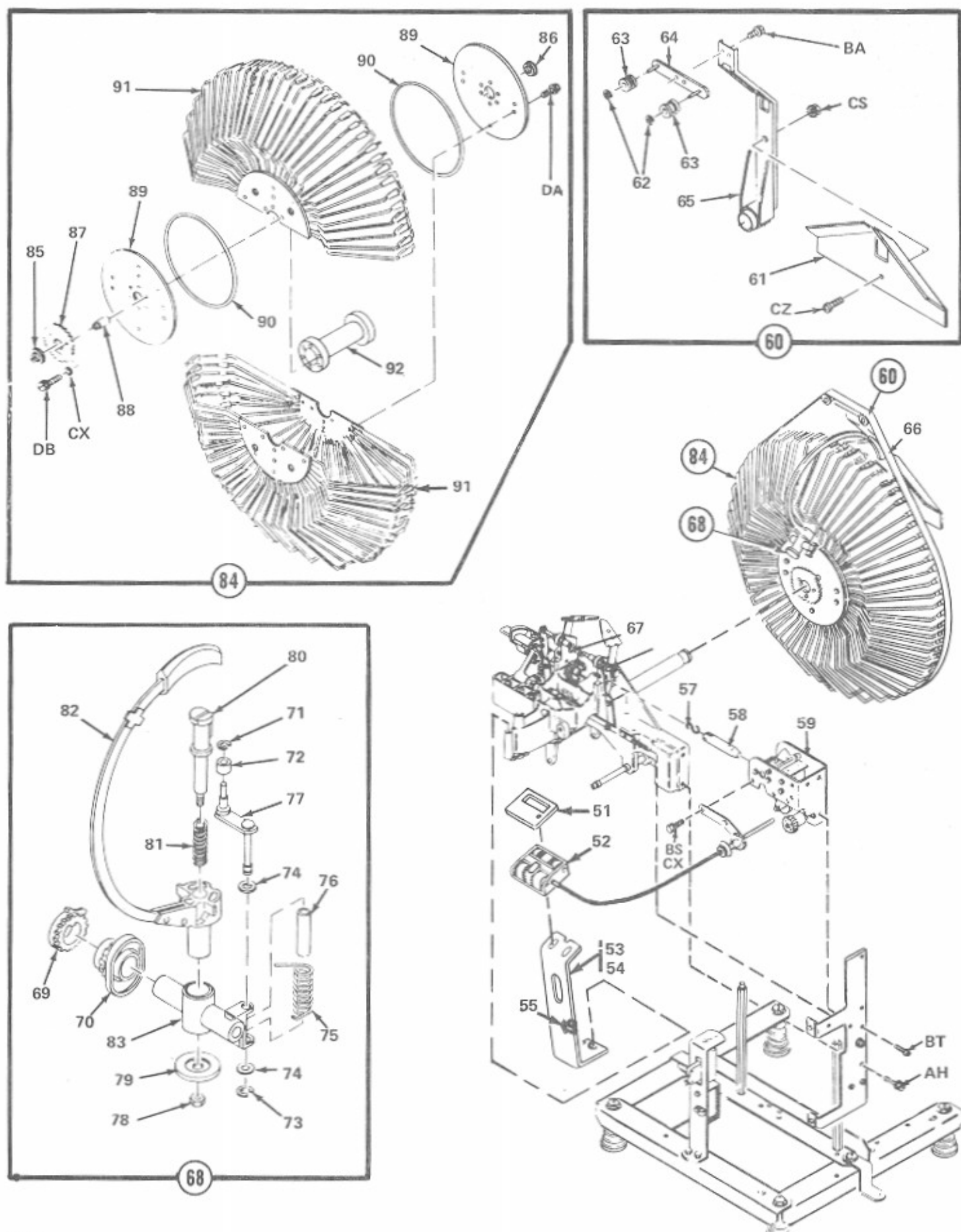


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
8-	605-03060	Mechanism Assembly (Continued)	
51	300-06452	. Annunciator Trim	1
52	301-05241	. Cable and Annunciator Assembly (See Figure 17)	1
53	200-14739	. Strap	1
54	301-06615	. Annunciator Bracket Assembly	1
55	704-00931	. Cable Clamp	1
56		. Not Used	
57	200-11513	. Toggle Plunger Link	1
58	201-11515	. Plunger Assembly	1
59	303-05111	. Scan Control Assembly (See Figure 18)	1
60	303-05169	. Guide and Belt Support Assembly	1
61	400-05049	. Record Stop	2
62	703-01430	. Retaining Ring	2
63	200-03843	. Roller	1
64	201-10894	. Roller Bracket Assembly	1
65	301-05147	. Gripper Bow Assembly	1
66	201-10895	. Belt	1
67	200-10792	. Trunnion Pin	2
68	401-05390	. Gripper Bow and Trunnion Assembly	1
69	300-05122	. Gear, Trunnion	1
70	400-05013	. Cam Gear	1
71	707-01430	. Retaining Ring	1
72	200-12537	. Roller	1
73	703-01430	. Retaining Ring	1
74	721-01207	. Flat Washer	2
75	200-12538	. Torsion Spring	1
76	200-12536	. Sleeve Bearing	1
77	201-12532	. Pawl Lever and Shaft Assembly	1
78	210-13578	. Stop Nut	1
79	201-10815	. Cam Follower	1
80	201-10808	. Inner Shoe	1
81	200-10811	. Record Release Spring	1
82	301-05197	. Transfer Arm and Hub Assembly	1
83	301-03121	. Trunnion	1
84	602-03010	. Magazine Assembly	1
85	714-01460	. Bearing	1
86	701-01460	. Bearing	1
87	300-05191	. Gear	1
88	200-11518	. Spacer	3
89	300-05100	. Separator Support	2
90	200-10803	. Cord Ring	2
91	402-05044	. Separator Assembly	2
92	300-05101	. Support Spacer	1

FIGURE
8

Mechanism Assembly Sheet 3

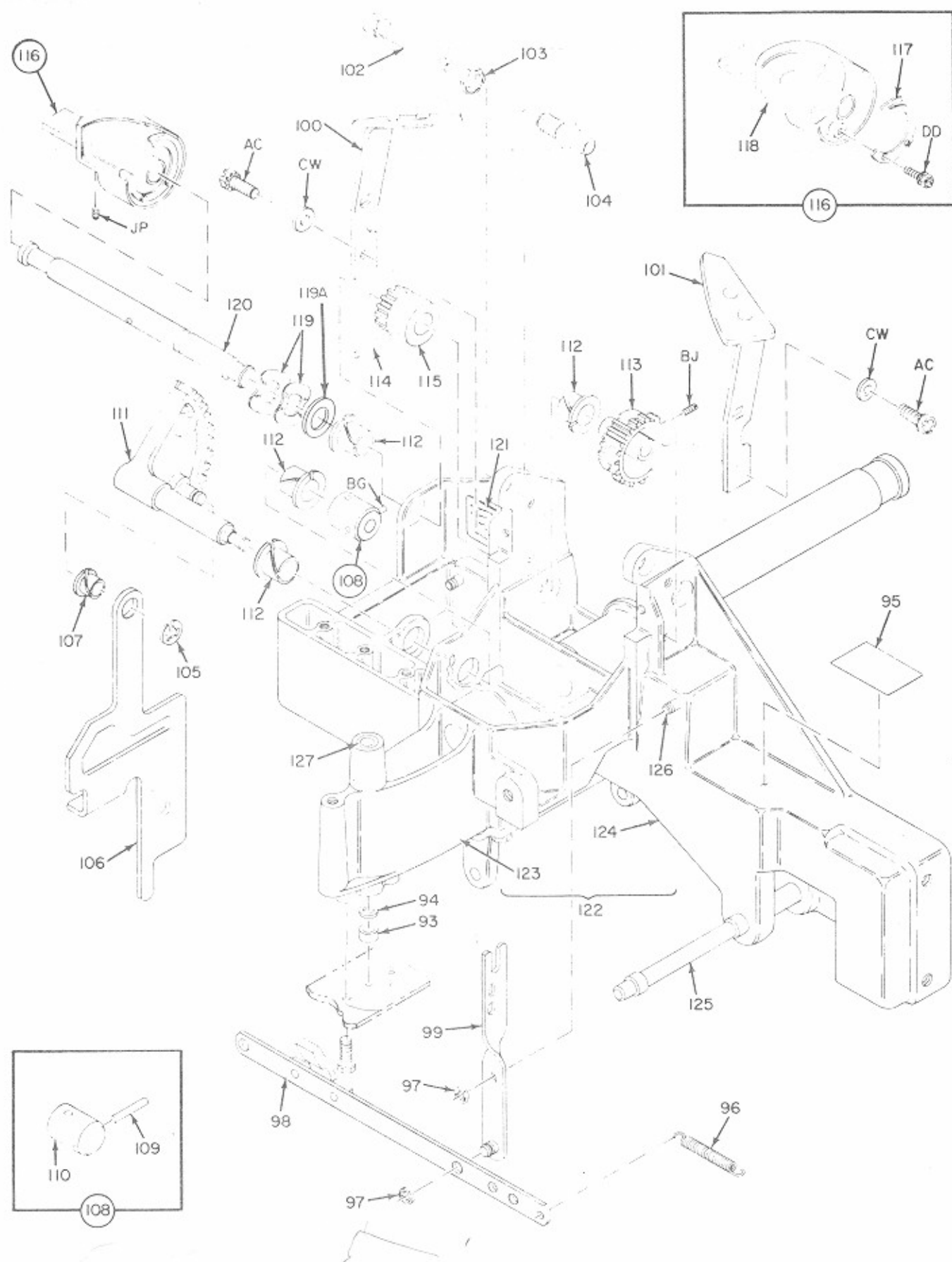


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
8-	605-03060	Mechanism Assembly (Continued)	
93	200-10866	Spacer Bearing	1
94	200-10364	Thrust Bearing	1
95	201-11004	Mechanism Nameplate	1
96	200-10955	Tension Spring	1
97	703-01430	Retaining Ring	4
98	201-10823	Cross Link and Stop Assembly	1
99	201-11517	Link and Pin Assembly	1
100	201-11520	Record Guide Assembly (L.H.)	1
101	201-11521	Record Guide Assembly (R.H.)	1
102	200-11528	Toggle Pin	2
103	704-01301	Nut	2
104	200-10817	Toggle Pin Bushing	2
105	704-01430	Retaining Ring	1
106	200-10793	Transfer Link	1
107	704-01460	Bearing	1
108	201-10809	Collar and Pin Assembly	1
109	720-01101	Roll Pin	1
110	200-10799	Collar	1
111	201-10800	Segment Gear and Shaft Assembly	1
112	705-01460	Bearing	4
113	400-05014	Gear, Trunnion and Cam Drive	1
114	719-01130	Roll Pin	1
115	200-14175	Camshaft Gear	1
116	201-10892	Tone Arm Cam Assembly	1
117	200-10909	Spring	1
118	400-05008	Cam	1
119	200-10820	Wave Washer	2
119A	725-01208	Plain Washer	1
120	200-10791	Trunnion Drive Shaft	1
121	200-12665	Label	1
122	403-05003	Base Assembly	1
123	300-05205	Shaft Support	1
124	401-05002	Base	1
125	200-10728	Stop Switch Shaft	1
126	200-10729	Mounting Pin	2
127	200-10377	Bearing	2

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
8-	605-03060	Mechanism Assembly (continued)	
128	200-07548	Clip, Cable	2
129	705-00931	Clamp, Cable	3
130	201-11011	Hub Shift Assembly	1
131	702-01430	Ring, Retaining	1
132	710-01205	Washer, Flat	1
133	202-11505	Solenoid Assembly	1
134	203-13578	Nut, Stop	1
135	200-10862	Plunger	1
136	200-10861	Spacer	1
137	200-11017	Plate, Nut	1
138	200-10735	Microswitch	1
139	201-12609	Bracket Switch	1
140	201-12586	Wire and Termination Assembly	1
141	201-12694	Terminal Strip and Bracket Assembly	1
142	200-11014	Nut, Lock	2
143	200-11013	Nut, Lock	2
144	200-10881	Support, Mechanism	2
145	201-10949	Wiper Blade Assembly	1
146	201-10893	Mounting Bracket Assembly	1
147	400-05388	Bracket, Search Unit	1

Mechanism Assembly Sheet 5

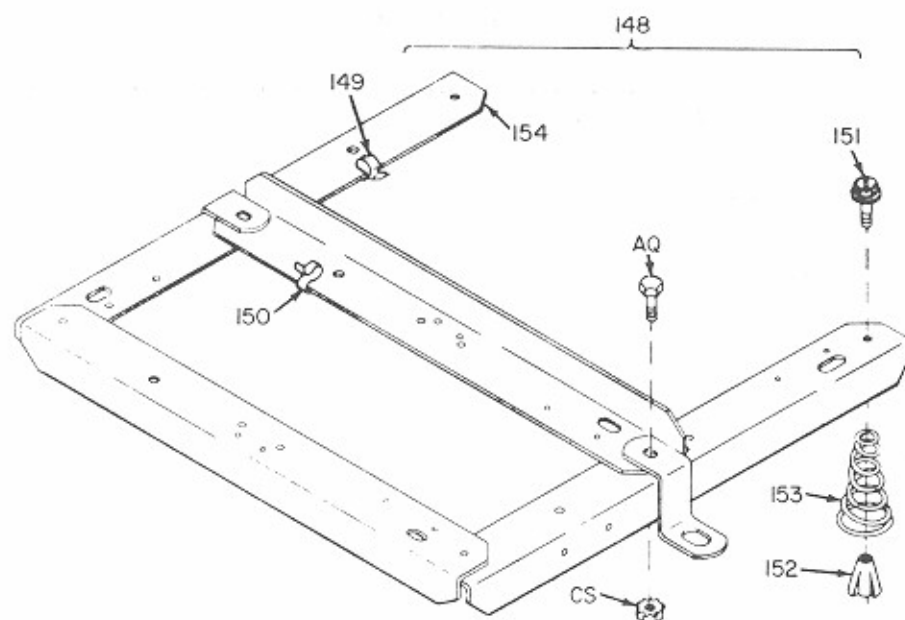


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
8-	605-03060	Mechanism Assembly (continued)	
148	301-06622	Mechanism Support and Spring Assembly	1
149	202-05545	Clip, Cable	1
150	200-07545	Clip, Wire	5
151	200-11538	Pin, Screw, Spring Support	4
152	200-06272	Support, Spring	4
153	200-06128	Spring	4
154	302-05142	Mechanism Support Assembly	1

Playmeter Wheel Assembly

FIGURE
9

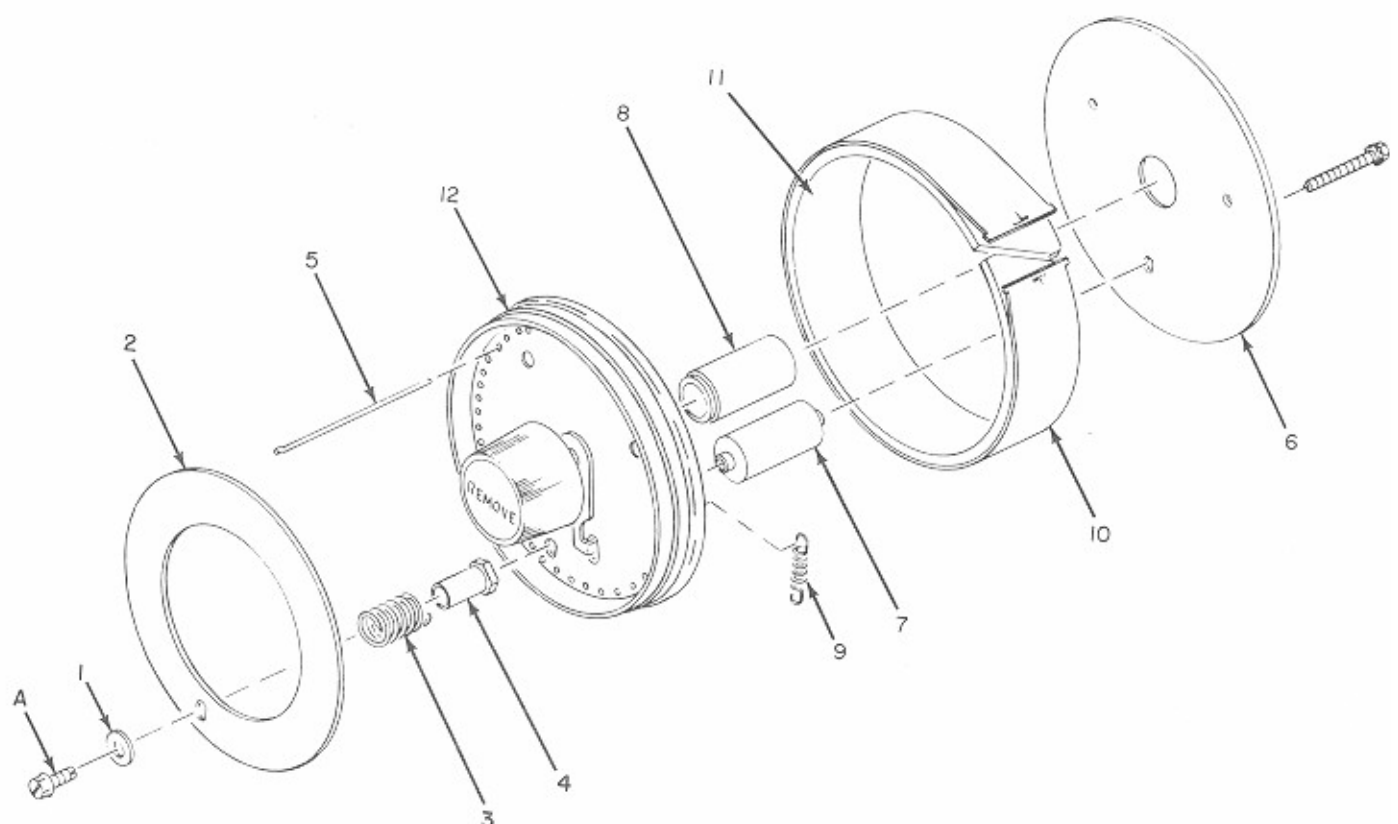


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
9-	303-05465	Playmeter Wheel Assembly (Figure 8, Item 1)	REF
1	702-01220	Washer, Flat, No. 6	3
2	300-06262	Plate, Reset	1
3	200-10965	Spring, Compression	3
4	200-10969	Stud, Reset Guide	3
5	200-11582	Pin, Playmeter	100
6	300-05159	Plate, Back	1
7	200-10962	Spacer	3
8	200-10968	Bearing	1
9	200-11581	Spring, Tension	1
10	300-05198	Strip, Playmeter	1
11	202-10966	Strip, Pin Loading	1
12	201-13913	Playmeter Plate Assembly	1

**FIGURE
10**

Tone Arm Assembly

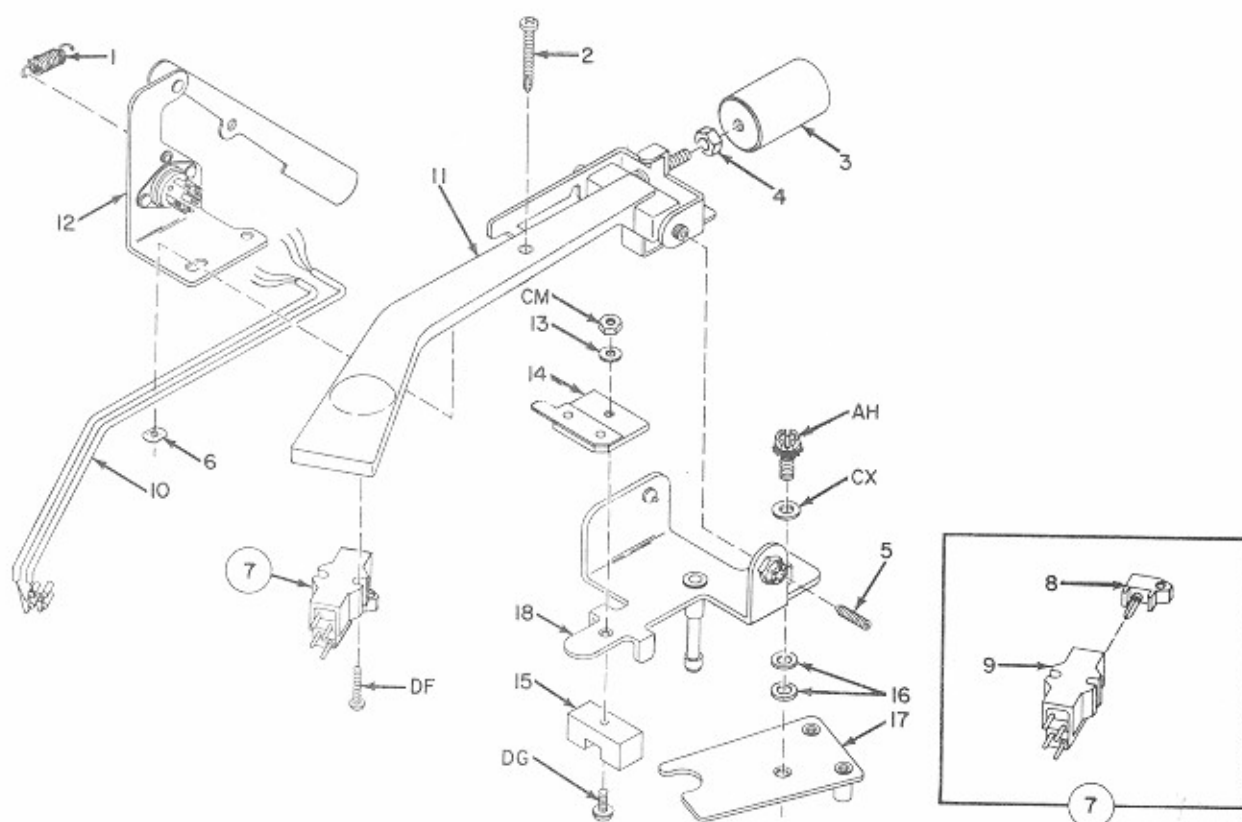


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
10-	306-05124	Tone Arm Assembly (Figure 8, Item 14)	REF
1	200-03713	Tension Spring	1
2	200-65025	Contact Screw	1
3	201-11585	Counterweight	1
4	200-13306	Nut	1
5	200-10712	Pivot Screw	1
6	200-10898	Push-on Nut	3
7	200-13011	Stereo Cartridge (Order Service Pt. No. 200-65851 For Replacement)	1
8	200-13031	Stylus	1
9	200-10873	Cartridge	1
10	201-10874	Cable Assembly	2
11	303-05118	Arm and Lever Assembly	1
12	201-10785	Bracket and Lever Assembly	1
13	724-01206	No. 4 Flat Washer	1
14	201-65023	Contact Blade	1
15	200-10724	Magnet	1
16	719-01200	Flat Washer	AR
17	201-10727	Cam Plate Assembly	1
18	201-10714	Bracket and Shaft Assembly	1

Turntable Motor and Plate Assembly

FIGURE
11

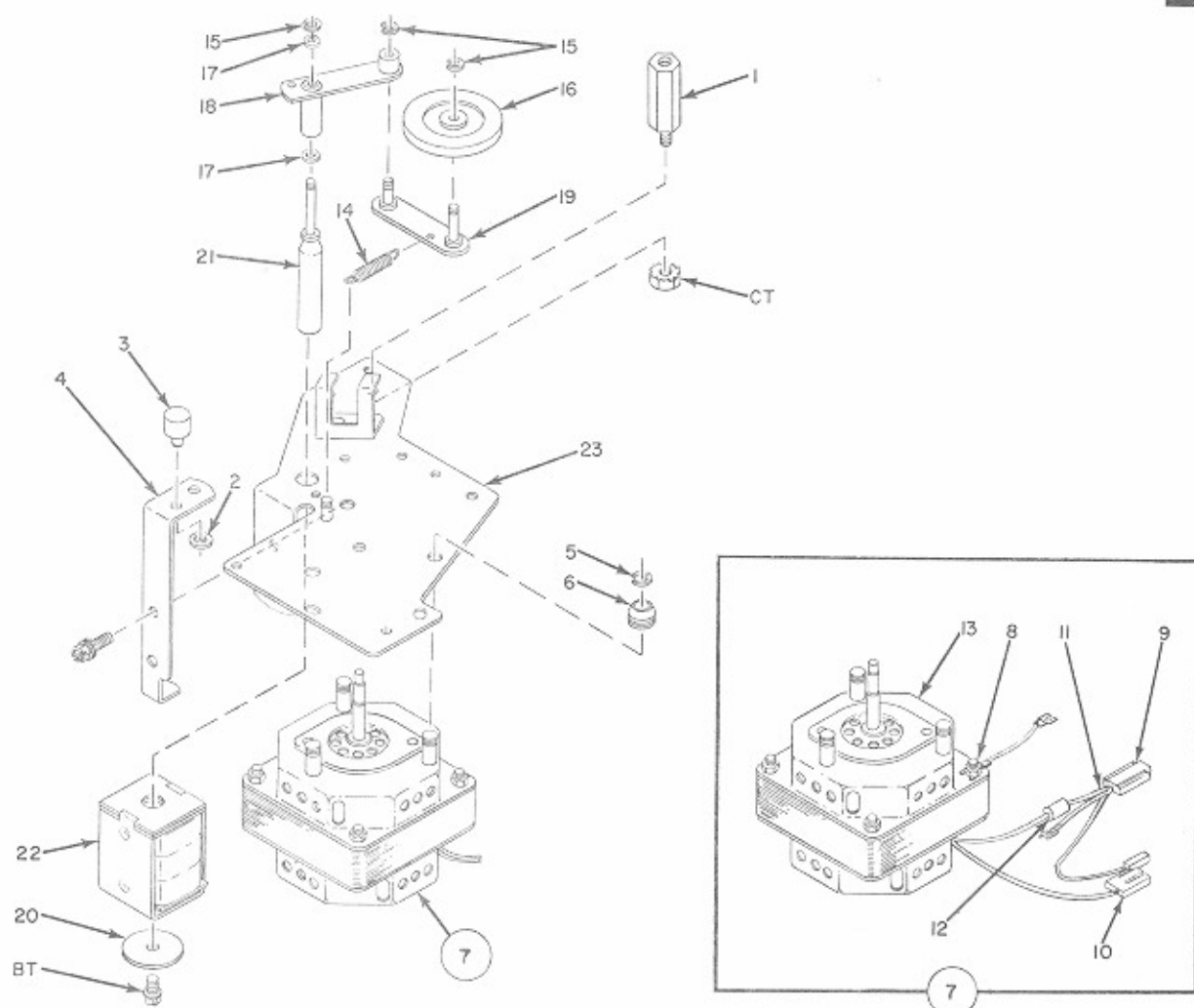


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
11-	401-05076	Turntable Motor and Plate Assembly (Figure 8, Item 20)	REF
1	201-10708	Tone Arm Bearing	1
2	702-01437	Retaining Ring	1
3	200-10897	Gripper Bow Rest	1
4	200-10886	Gripper Bow Rest Bracket (L.H.)	1
5	712-01430	Retaining Ring	3
6	200-11501	Grommet	3
7	301-05239	Turntable Motor Assembly	1
8	216-12300	Wire and Lug Assembly	1
9	202-17323	3 Circuit Socket Connector	1
10	201-51106	Triple Receptacle (Insulated)	1
11	Spec 7065D	3 Conductor Cord	14"
12	704-00921	Solderless Connector	1
13	300-05193	Turntable Motor	1
14	200-00907	Tension Spring	1
15	701-01430	Retaining Ring	3
16	201-10889	Idler Wheel Assembly	1
17	712-01213	Washer	2
18	201-10887	Link and Bushing Assembly	1
19	201-10888	Link and Pin Assembly	1
20	714-01206	Washer	1
21	201-08003	Plunger Assembly	1
22	202-11505	Solenoid Assembly	1
23	301-05189	Turntable Motor Mount Assembly	1

FIGURE
12

Cam Switch and Motor Assembly

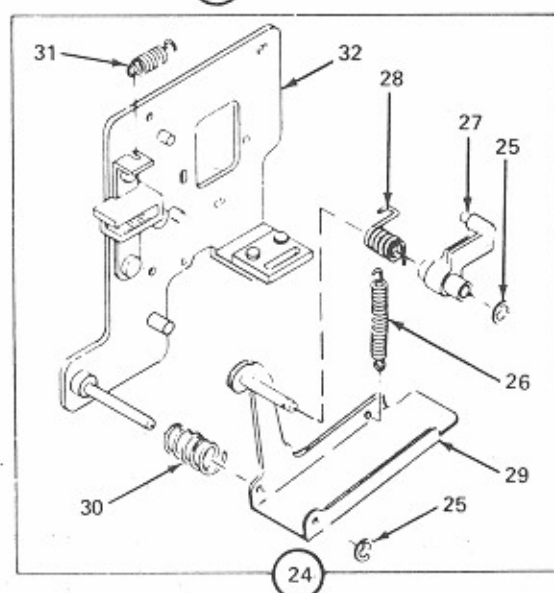
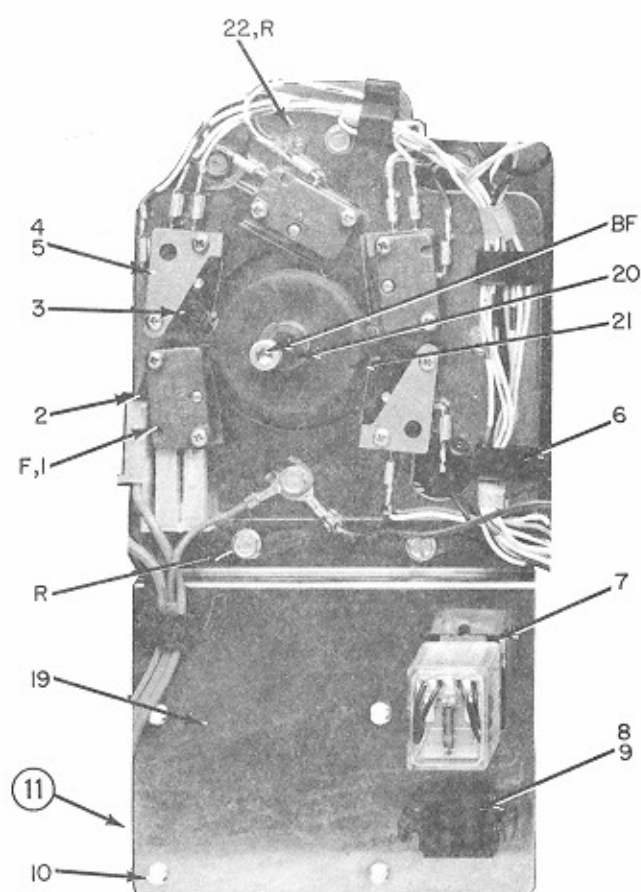
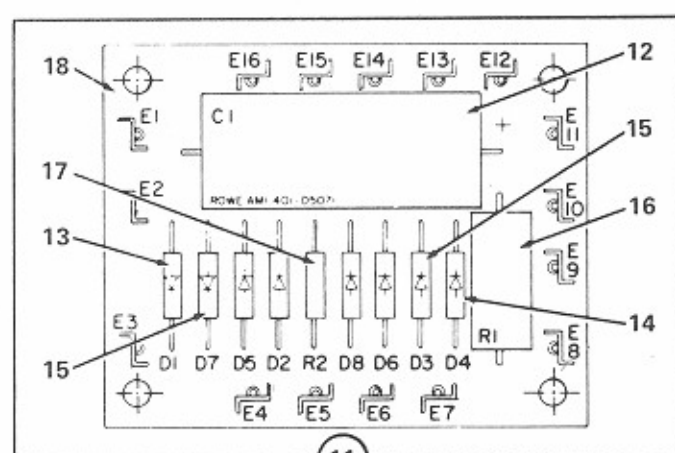
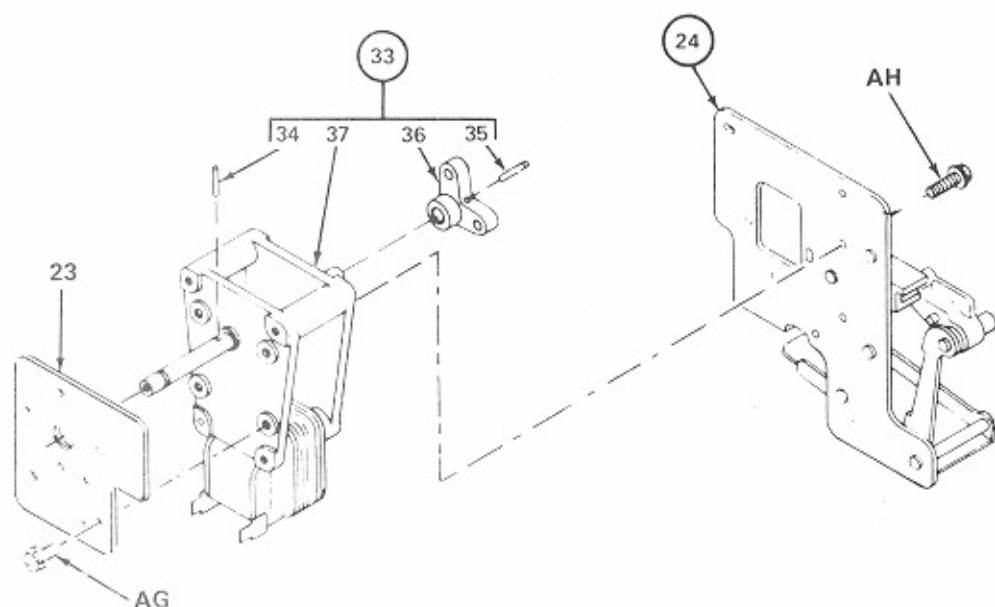


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
12-	401-05075	Cam Switch and Motor Assembly (Figure 8, Item 24)	REF
1	200-10732	Switch	2
2	200-50548	Insulator	1
3	200-10731	Switch	3
4	200-10829	Actuator, Switch	5
5	200-10830	Nut, Twin	5
6	200-07545	Clip	3
	403-05072	Mechanism Harness and Terminal Board Assembly	1
7	202-13782	Socket, Relay	1
	603-03014	Mechanism Harness Assembly	1
8	203-12444	Housing, Socket (9 Circuit) Brown	1
9	207-12444	Housing, Socket (2 Circuit)	1
10	704-05000	Support, Circuit Board	4
11	401-05071	Terminal Board Assembly	1
12	719-00233	Capacitor, Electrolytic, 100MFD, 50V	1
13	702-00350	Diode, Silicon, (D1, D5, D6, D8)	4
14	705-00350	Diode, Silicon, (D2, D4)	2
15	706-00350	Diode, Silicon, (D3, D7)	2
16	725-00105	Resistor, Carbon, 120 OHM, 2W (R1)	1
17	724-00107	Resistor, Carbon, 22 OHM, 1/2W (R2)	1
18	401-05070	Printed Wiring Board	1
19	301-05236	Bracket, Relay Mounting	1
20	704-01430	Ring, Retaining	1
21	300-06636	Cam, Switch	1
22	300-06628	Plate, Switch Mounting	1
23	300-06627	Plate, Motor Mounting	1
24	303-05129	Motor Mounting Plate Assembly	1
25	703-01430	Ring, Retaining	2
26	201-11644	Spring, Tension	1
27	301-05204	Ratchet Pawl Assembly	1
28	200-10835	Spring, Torsion	1
29	201-10834	Actuator Arm Assembly	1
30	200-12075	Spring, Compression	1
31	200-03816	Spring, Tension	1
32	203-10833	Plate and Ratchet Assembly	1
33	201-11598	Motor and Crank Assembly	1
34	706-01131	Pin, Roll	1
35	719-01131	Pin, Roll	1
36	202-10807	Crank and Pin Assembly	1
37	401-05059	Transfer Motor Assembly	1

FIGURE
13

Search Unit and Pin Wheel Assembly

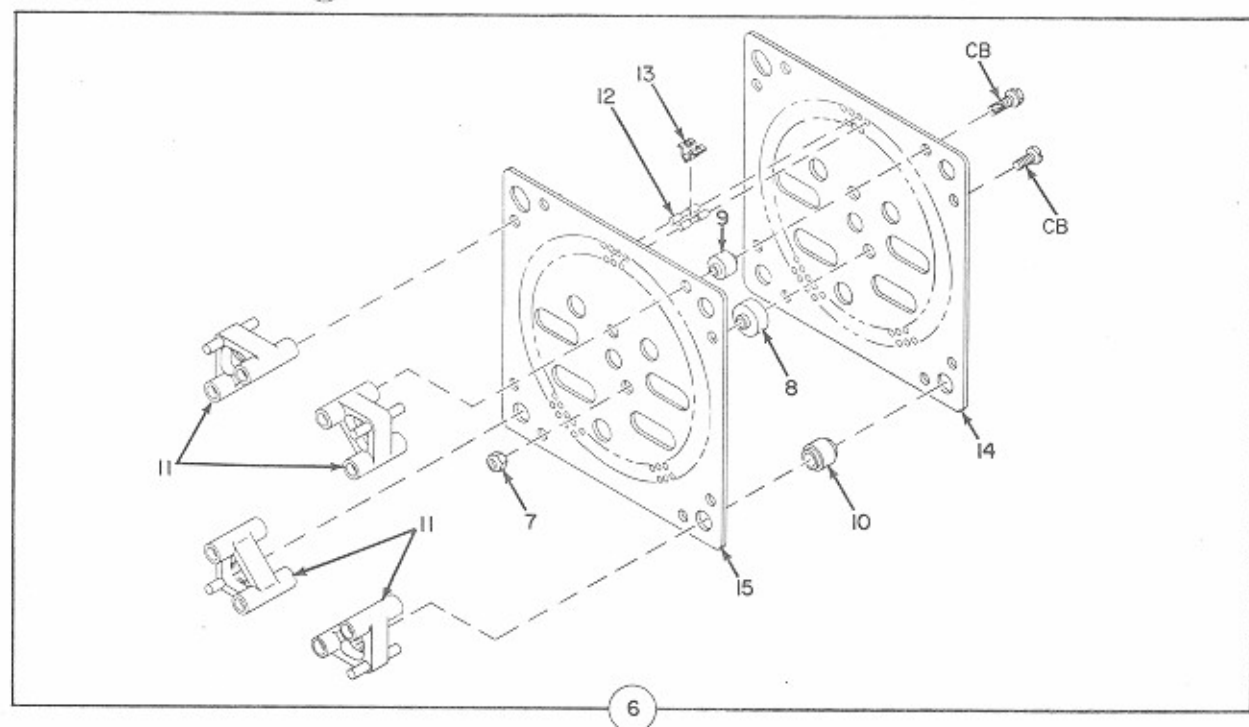
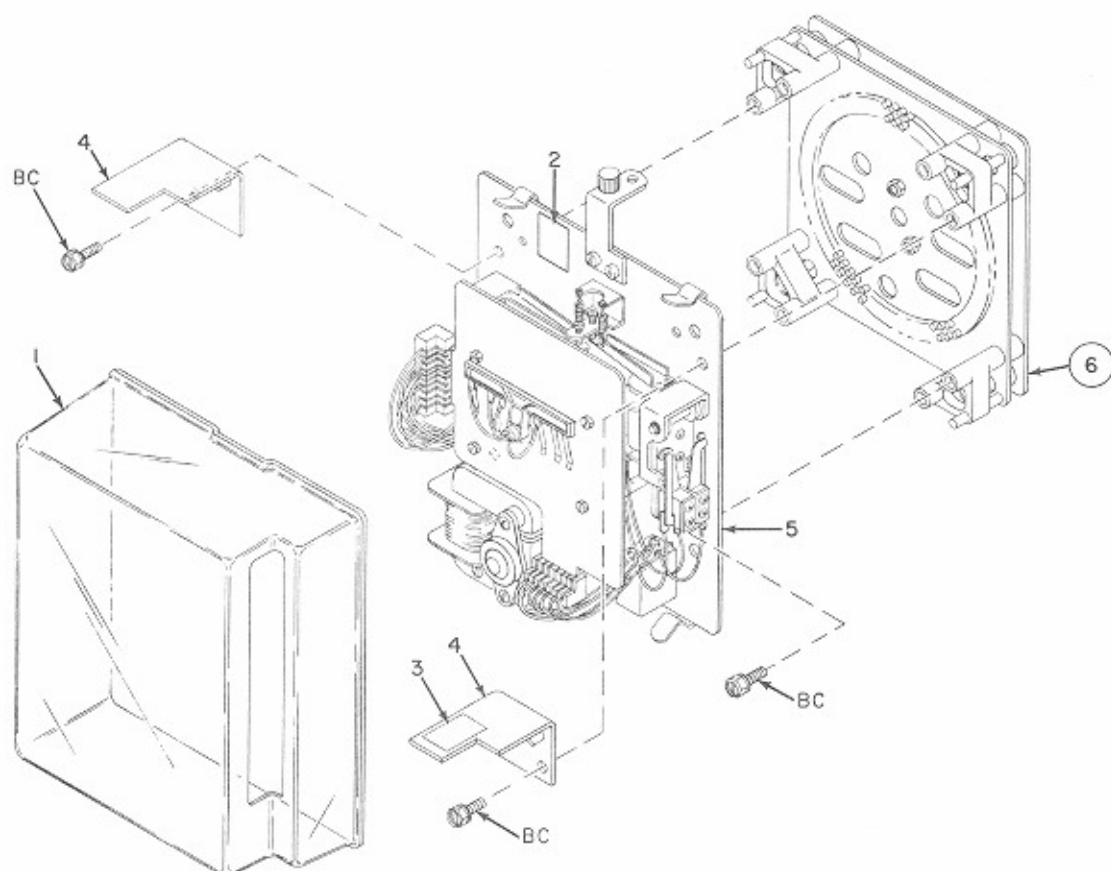


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
13-	406-05012	Search Unit and Pin Wheel Assembly (Figure 8, Item 27)	REF
1	400-05052	Cover, Protective	1
2	701-03032	Label, Serial Number	1
3	200-12665	Label, Caution	1
4	200-11577	Bracket, Locating	2
5	601-04158	Search Unit Assembly (See Figure 14)	1
6	301-05190	Pinwheel Assembly	1
7	706-01301	Nut, Self Locking	2
8	200-10939	Spacer	2
9	708-01215	Spacer	7
10	200-11511	Spacer	3
11	200-10832	Support, Search Unit	4
12	200-10942	Pin, Selector	200
13	200-11072	Spring, Friction	100
14	201-13260	Plate Assembly - Pin Wheel	1
15	301-05157	Plate, Pin Wheel	1

Search Unit Assembly Sheet 1

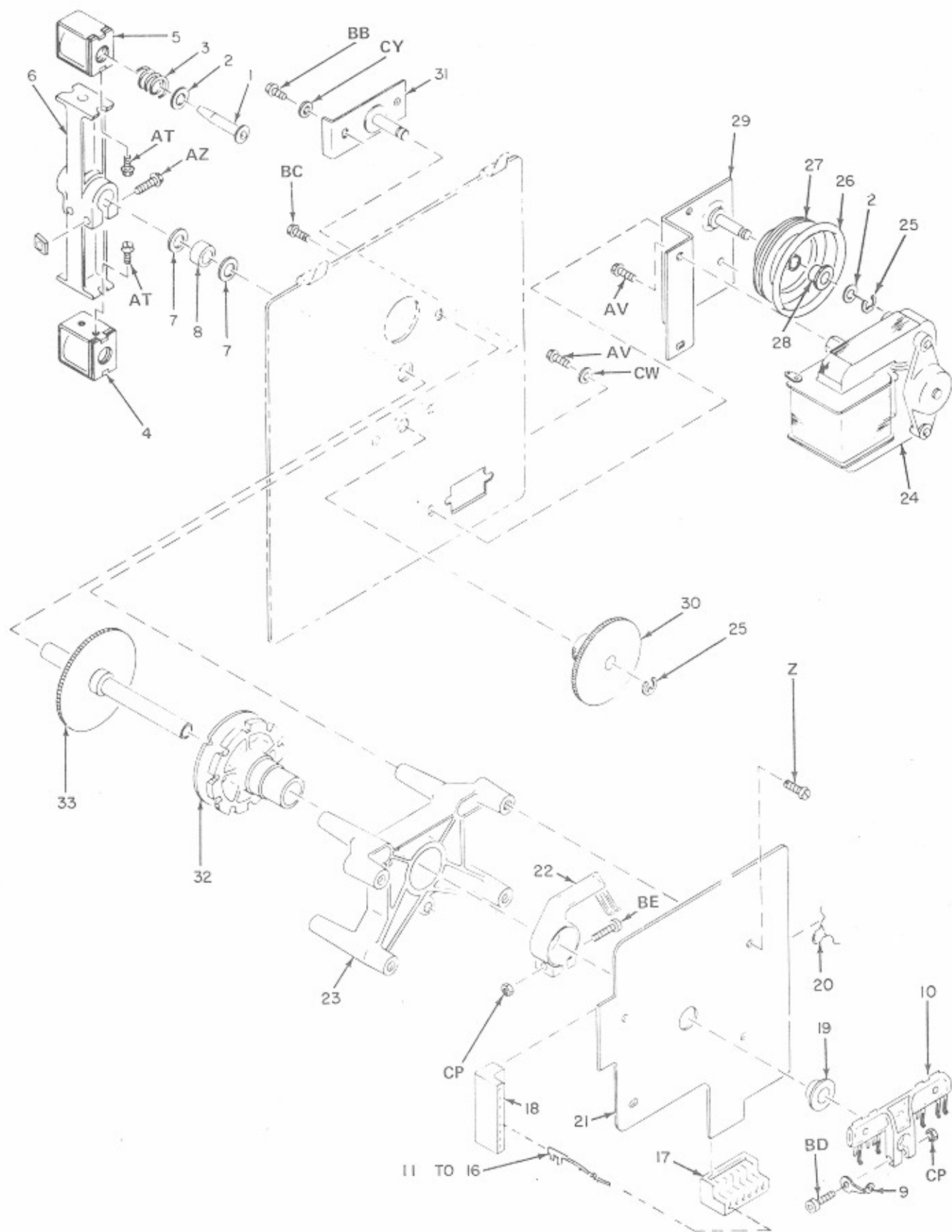


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
14-	601-04158	Search Unit Assembly (Figure 13, Item 5)	REF
1	201-11534	. Plunger Assembly	2
2	712-01207	. Washer, Flat	2
3	200-11533	. Spring, Compression	2
4	204-10743	. Solenoid Assembly	1
5	205-10743	. Solenoid Assembly	1
6	300-05112	. Arm, Solenoid	1
7	725-01205	. Washer, Plain	2
8	720-01214	. Spacer, Sleeve	1
9	200-11583	. Lug, Ground	1
10	301-06371	. Wiper Assembly	1
11	204-11579	. Jumper Assembly	2
12	208-11579	. Jumper Assembly	1
13	210-11579	. Jumper Assembly	1
14	211-11579	. Jumper Assembly	1
15	201-11580	. Jumper Assembly	1
16	202-11580	. Jumper Assembly	1
17	201-11575	. Connector, Edge	1
18	202-11575	. Connector Edge	1
19	201-11573	. Circuit Board and Eyelet Assembly	1
	707-01460	. Bearing	2
20	706-00223	. Capacitor, Ceramic Disc, 0.01 MFD, 500V	1
21	400-05048	. Circuit Board	1
22	301-05599	. Wiper Assembly	1
23	400-05010	. Frame, Mounting	1
24	300-06417	. Motor Assembly	1
25	703-01430	. Ring, Retaining	2
26	200-14265	. Drive Belt, Search Unit	2
27	200-14264	. Gear and Hub	1
28	720-01460	. Bearing	1
29	201-14268	. Bracket and Pin Assembly	1
30	201-11838	. Gear Assembly, Idler	1
31	201-10760	. Pin and Plate Assembly, Idler	1
32	401-05011	. Wheel Assembly, Sprag	1
33	301-05141	. Gear and Shaft Assembly	1

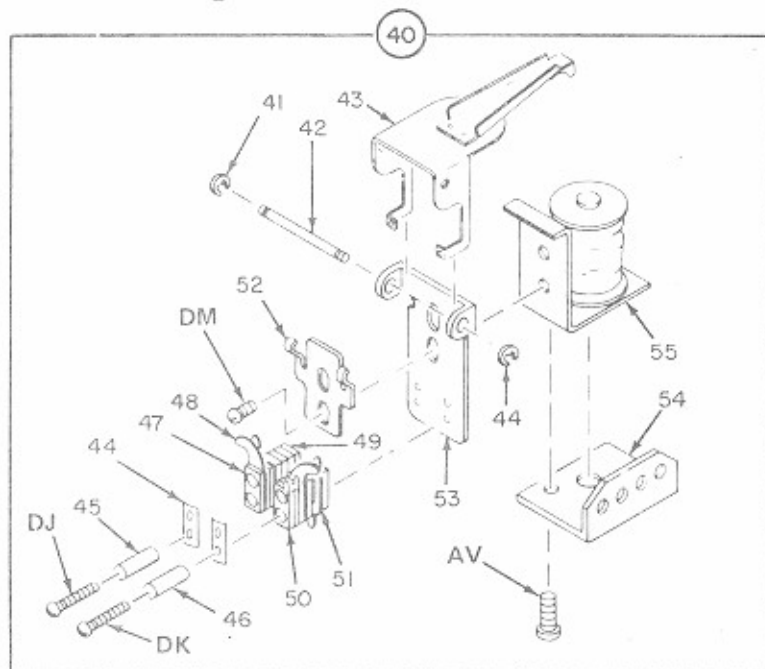
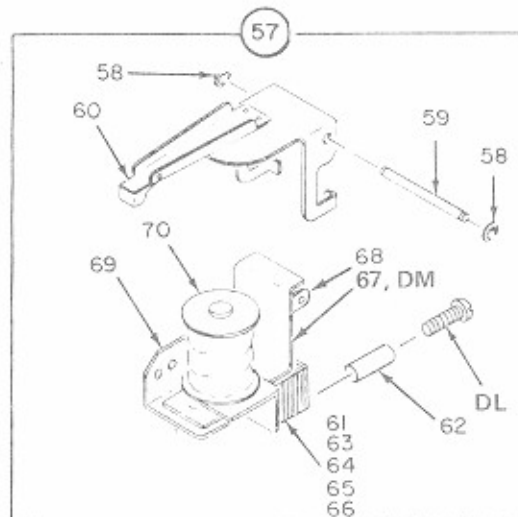
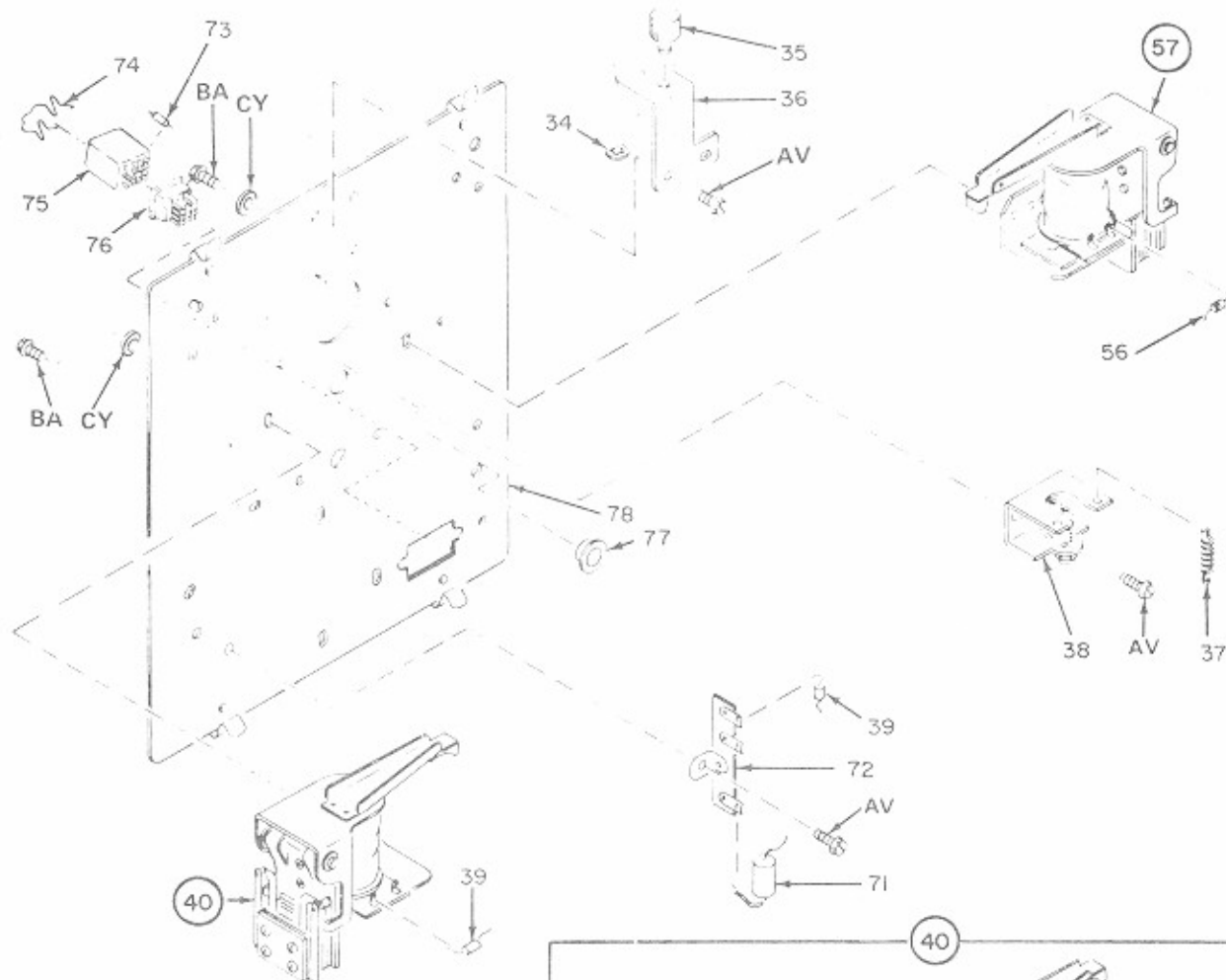


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
14-	601-04158	Search Unit Assembly (Continued)	
34	702-01437	Clip, Retaining	2
35	200-10897	Rest, Transfer Arm	1
36	200-10787	Bracket, Support	1
37	200-10786	Spring, Tension	2
38	201-10761	Bracket and Stop Nut Assembly	1
39	702-00350	Rectifier, Silicon	2
40	308-08050	Relay Assembly, Sprag	1
41	701-01430	Ring, Retaining	2
42	200-03598	Pin, Hinge	1
43	201-10759	Armature Assembly	1
44	200-06163	Plate, Clamping	2
45	200-05319	Tubing, Insulating, 0.384 in. long	2
46	200-05319	Tubing, Insulating, 0.571 in. long	2
47	200-00547	Spacer, Contact Blade	20
48	201-09040	Contact Blade Assembly	4
49	206-09040	Contact Blade Assembly	1
50	204-09040	Contact Blade Assembly	1
51	207-09040	Contact Blade Assembly	1
52	200-03777	Plate, Clamp-Hinge	1
53	200-03597	Hinge, Relay	1
54	200-10747	Bracket, Sprag Relay Mounting	1
55	201-10757	Frame and Coil Assembly (Sprag)	1
56	702-00350	Diode, Silicon	1
57	305-08050	Relay Assembly, Sprag	1
58	701-01430	Ring, Retaining	2
59	200-03598	Pin, Hinge	1
60	201-10758	Armature Assembly	1
61	200-06163	Plate, Clamping	2
62	200-05319	Tubing, Insulating, 0.333 in. long	4
63	200-00547	Spacer, Contact Blade	14
64	206-09040	Contact Blade Assembly	1
65	201-09040	Contact Blade Assembly	2
66	207-09040	Contact Blade Assembly	1
67	200-03777	Plate, Clamping, Hinge	1
68	200-03597	Hinge, Relay	1
69	200-10747	Bracket, Sprag Relay Mounting	1
70	200-06075	Frame and Coil Assembly	1
71	200-10981	Capacitor, 5 MFD, 100V	1
72	200-08250	Strip, Terminal	1
73	706-00104	Resistor, Carbon, 1.8K, 1/2W (R2)	1
74	200-12869	Spring, Relay	1
75	200-12751	Relay	1
76	202-13782	Socket, Relay	1
	303-05114	Plate and Bearing Assembly	1
77	200-10766	Bearing	1
78	400-05051	Plate and Bearing Assembly	1

FIGURE
15

Stop Switch Assembly

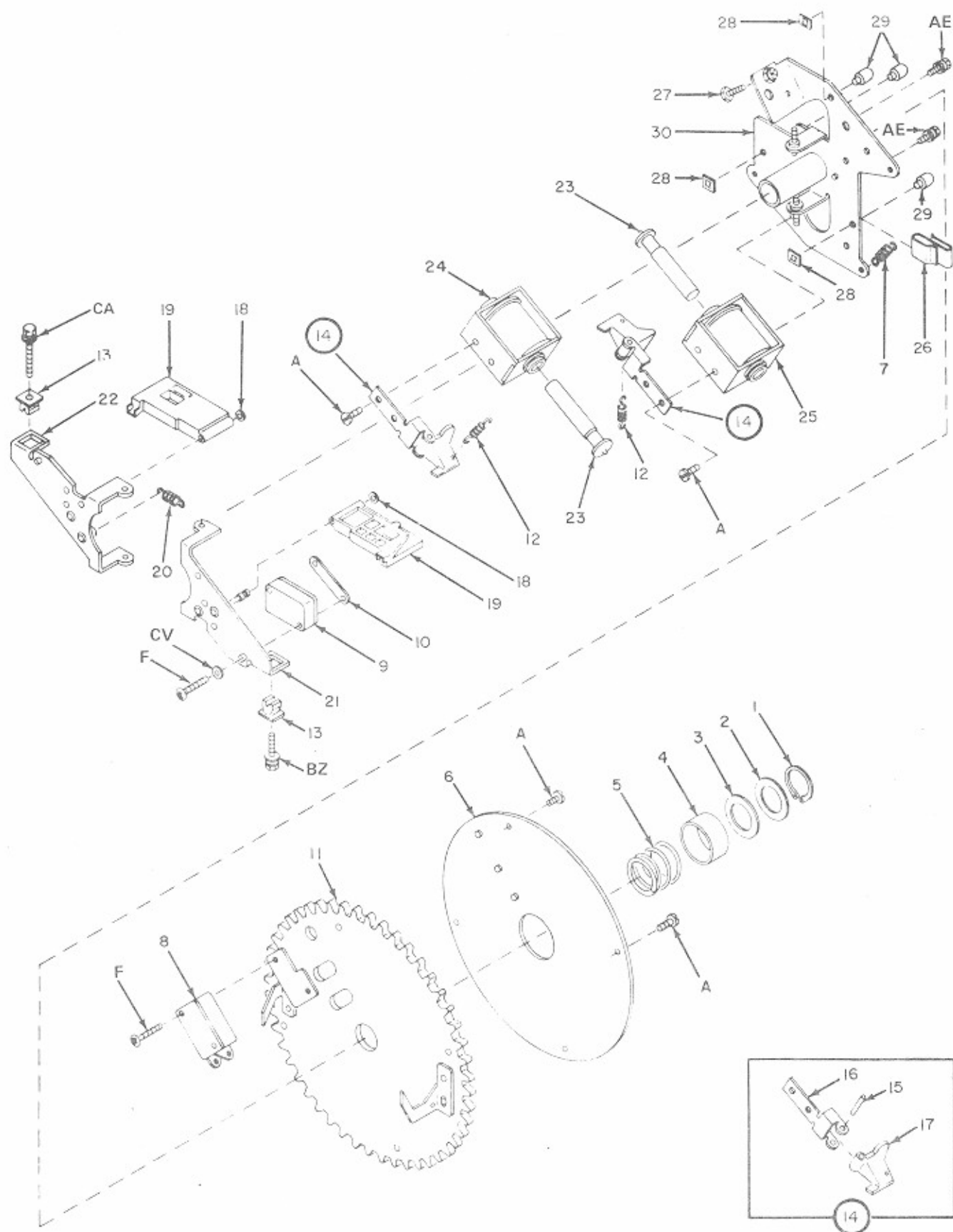


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
15-	401-05024	Stop Switch Assembly (Figure 8, Item 29)	REF
1	708-01432	. Ring, Retaining	1
2	721-01206	. Washer	1
3	720-01206	. Washer	1
4	200-11535	. Sleeve	1
5	200-10953	. Spring, Compression	1
6	201-10934	. Slip Ring Assembly	1
7	200-10954	. Spring, Compression	1
8	201-14968	. Switch, Sensitive	1
9	201-14969	. Switch, Sensitive	1
10	200-10830	. Nut, Plate	1
11	201-10860	. Gear, Selector	1
12	200-03713	. Spring, Tension	2
13	200-10725	. Nut, Snap-In	2
14	201-10926	. Reset Lever Assembly	2
15	706-01130	. Pin, Roll	1
16	200-10929	. Lever	1
17	200-10928	. Bracket	1
18	701-01430	. Ring, Retaining	2
19	401-05028	. Pawl	2
20	200-12695	. Spring, Tension	1
21	201-10924	. Arm, Pivot	1
22	202-10924	. Arm, Pivot	1
23	201-11633	. Plunger & Tip Assembly	2
24	203-10936	. Solenoid Assembly	1
25	202-10936	. Solenoid Assembly	1
26	200-07545	. Clip	1
27	200-03822	. Screw, Adjusting	1
28	200-12402	. Nut, Speed	3
29	200-10921	. Button, Slide	3
30	301-05156	. Switch Plate Assembly	1

**FIGURE
16**

Sprag Assembly

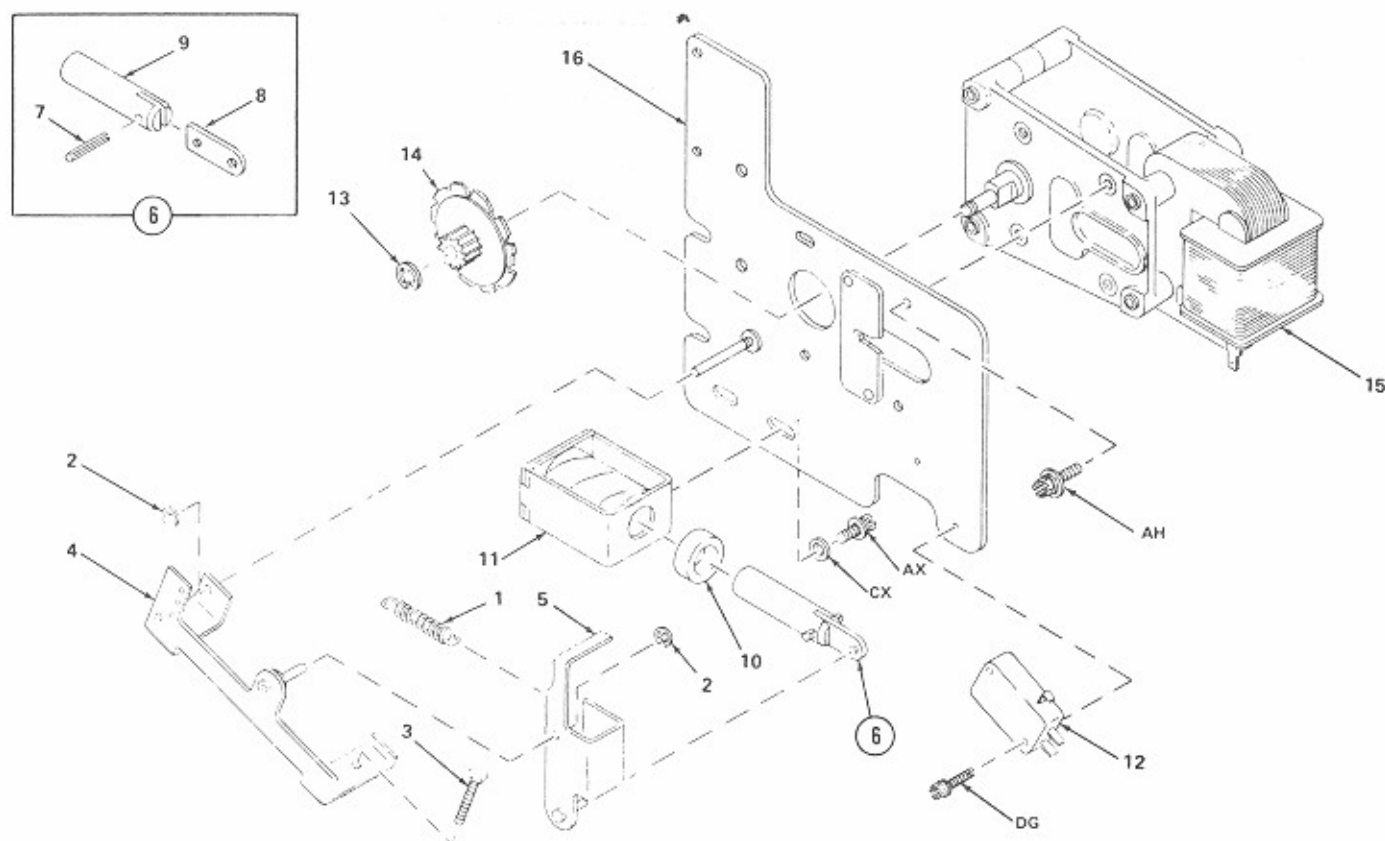


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
16-	403-05022	Sprag Assembly (Figure 8, Item 46)	REF
1	200-10843	Spring, Tension	1
2	705-01430	Ring, Retaining	2
3	200-03822	Screw, Adjusting	1
4	201-10855	Sprag Link Assembly	1
5	201-10856	Sprag Lever Assembly	1
6	201-10857	Plunger Assembly	1
7	703-01130	Pin, Roll	1
8	200-06226	Link, Plunger	1
9	200-10848	Plunger, Solenoid	1
10	200-10849	Stop, Plunger	1
11	203-11505	Solenoid Assembly	1
12	200-10732	Switch	1
13	703-01430	Ring, Retaining	1
14	300-05133	Wheel, Sprag	1
15	401-05055	Magazine Motor Assembly	1
16	301-05135	Sprag Bracket Assembly	1

Cable and Annunciator Assembly

FIGURE
17

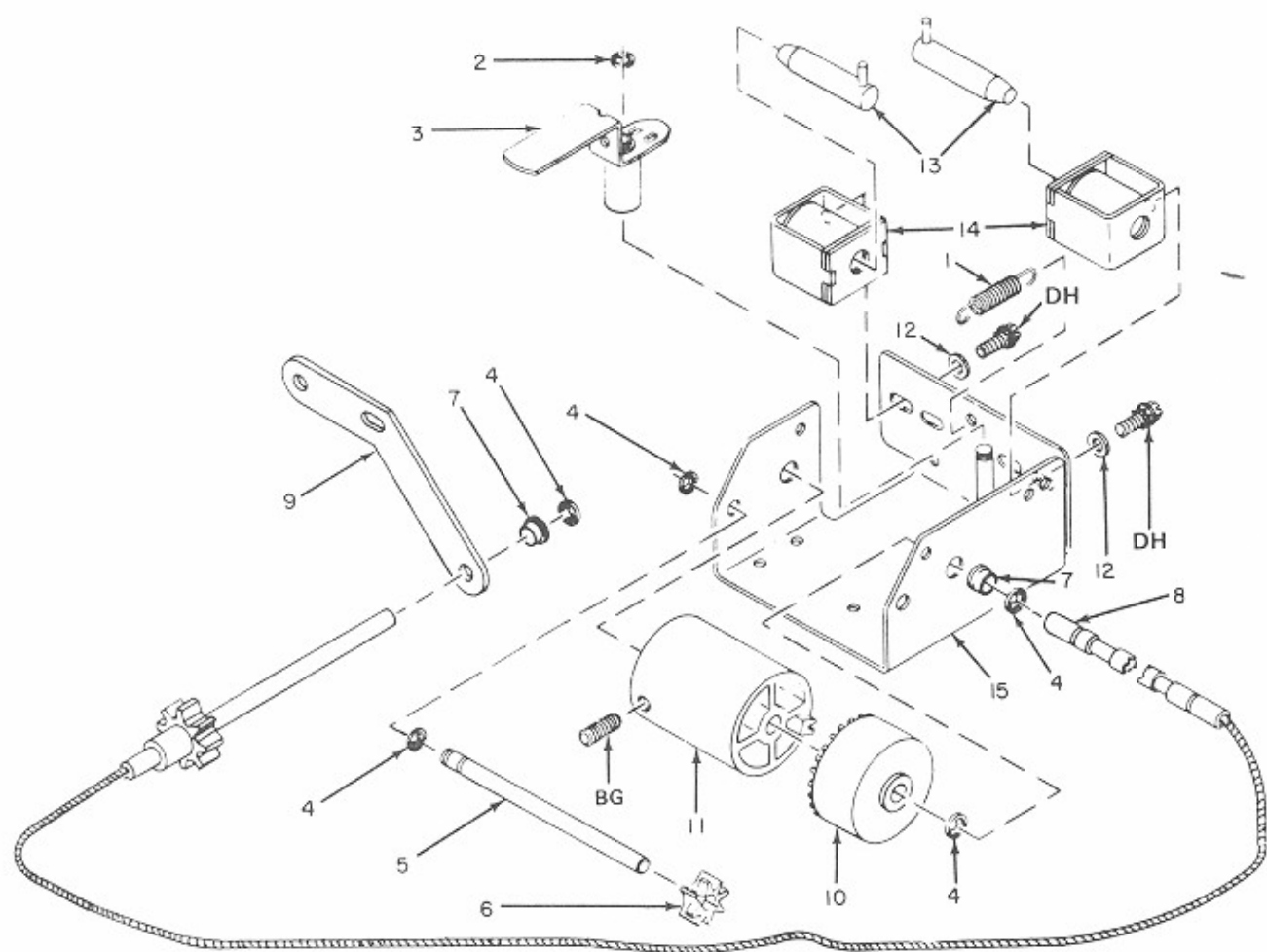


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
17-	301-05241	Cable and Annunciator Assembly (Figure 8, Item 52)	REF
1	200-03816	Spring	1
2	701-01430	Retaining Ring	1
3	201-10994	Bushing and Shutter Assembly	1
4	703-01430	Retaining Ring	5
5	200-10993	Pinion Shaft	1
6	200-10978	Pinion Gear	1
7	703-01460	Bearing	3
8	301-06612	Drive Assembly	1
9	200-10999	Bracket	1
10	201-11641	Number Wheel and Strip Assembly	1
11	201-11639	Letter Wheel Assembly	1
12	711-01206	Flat Washer	4
13	201-10998	Plunger Assembly	2
14	206-10743	Solenoid Assembly	2
15	202-10984	Frame Assembly	1

**FIGURE
18**

Scan Control Assembly

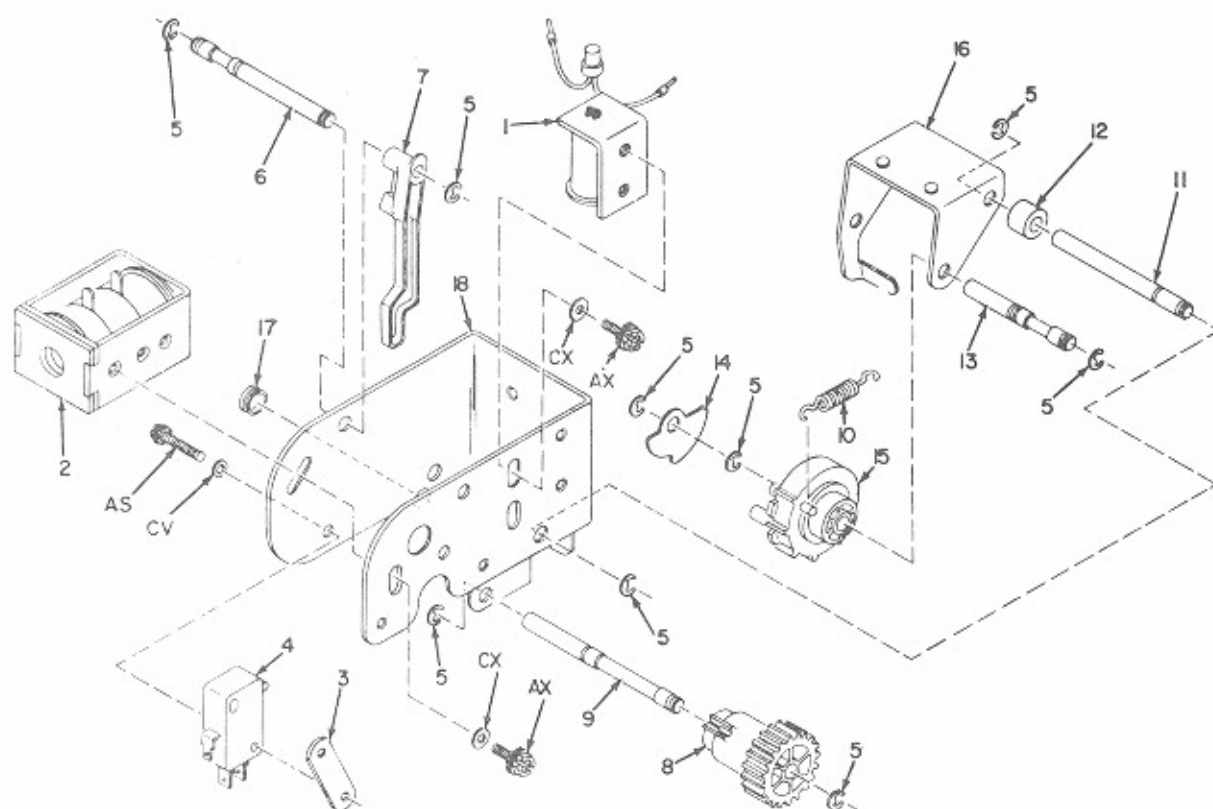


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
18-	303-05111	Scan Control Assembly (Figure 8, Item 59)	REF
1	202-12540	Reset Magnet Assembly	1
2	201-11505	Solenoid Assembly	1
3	200-10830	Plate Nut	1
4	200-10732	Switch	1
5	703-01430	Retaining Ring	10
6	200-10721	Switch Lever Pivot Shaft	1
7	300-05108	Switch Lever	1
8	300-05109	Scanning Control Pinion	1
9	200-10720	Pinion Shaft	1
10	200-08919	Tension Spring	1
11	200-08846	Pivot Shaft	1
12	707-01213	Sleeve Spacer	1
13	200-08846	Shaft	1
14	200-11529	Weight	1
15	201-10970	Scan Gear Assembly	1
16	202-08862	Reset Bracket Assembly	1
17	710-01460	Bearing	1
18	400-05030	Frame	1

Output Transformer Assembly

FIGURE
19

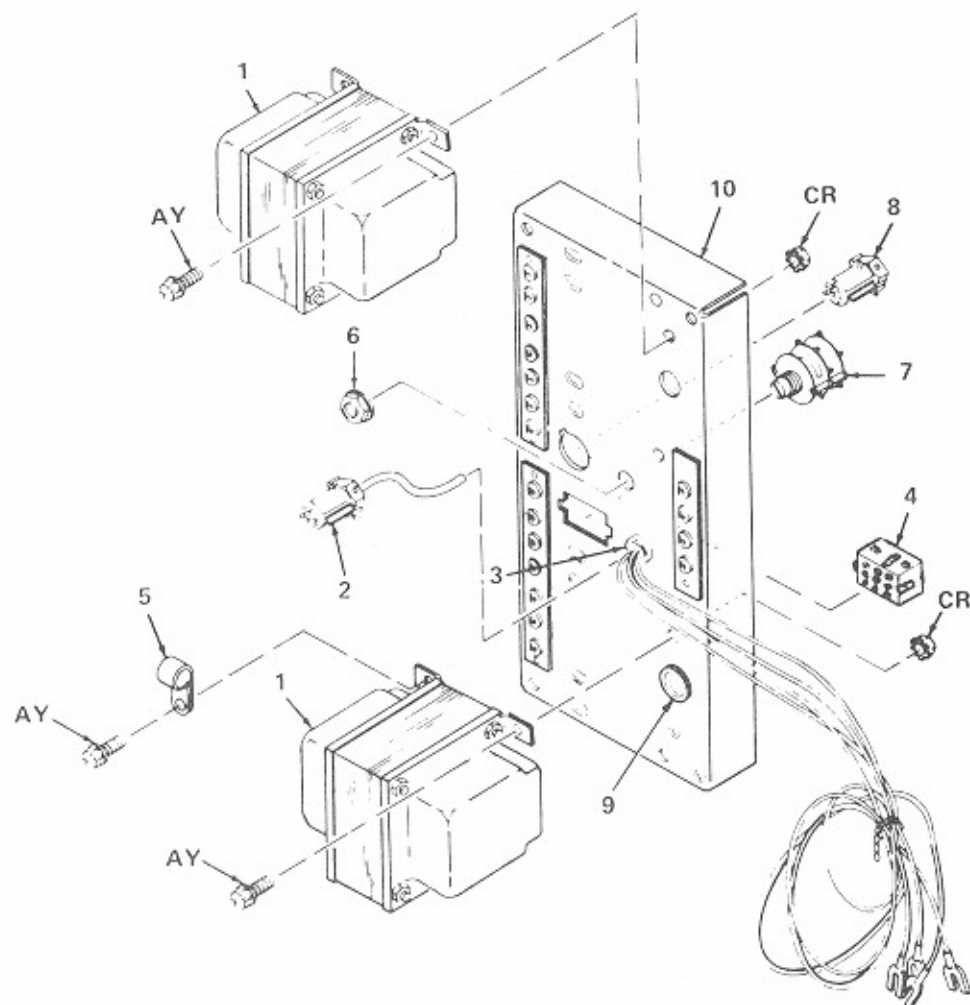


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASS'Y	
			64 WATT	120 WATT
19-	403-06322	Output Transformer Assembly, 64W (Figure 1, Item 57)	REF	
19-	401-06336	Output Transformer Assembly, 120W (Figure, Item 57)		REF
1	401-06522	Output Transformer	2	
1	401-06335	Output Transformer		2
	301-06327	Plug and Cable Assembly	1	1
2	201-13541	Combo-Line Cap Housing, 7 Circuit	1	1
3	701-02331	Strain Relief	1	1
	301-07488	Plug and Cable Assembly	1	1
4	305-07490	Universal Connector Cap Housing, 9 Circuit	1	1
5	704-00931	Cable Clamp	1	1
6	200-02649	Nut, 3/8-32	1	1
	301-07487	Connector and Switch Assembly	1	1
7	201-15278	Switch, 4 Pole, 6 Position	1	1
8	201-13540	Combo-Line Plug Housing, 7 Circuit	1	1
9	202-02331	Strain Relief	2	2
10	404-05776	Chassis Assembly with Lettering	1	
10	404-06260	Chassis Assembly with Lettering		1

FIGURE
20

Junction Box Assembly

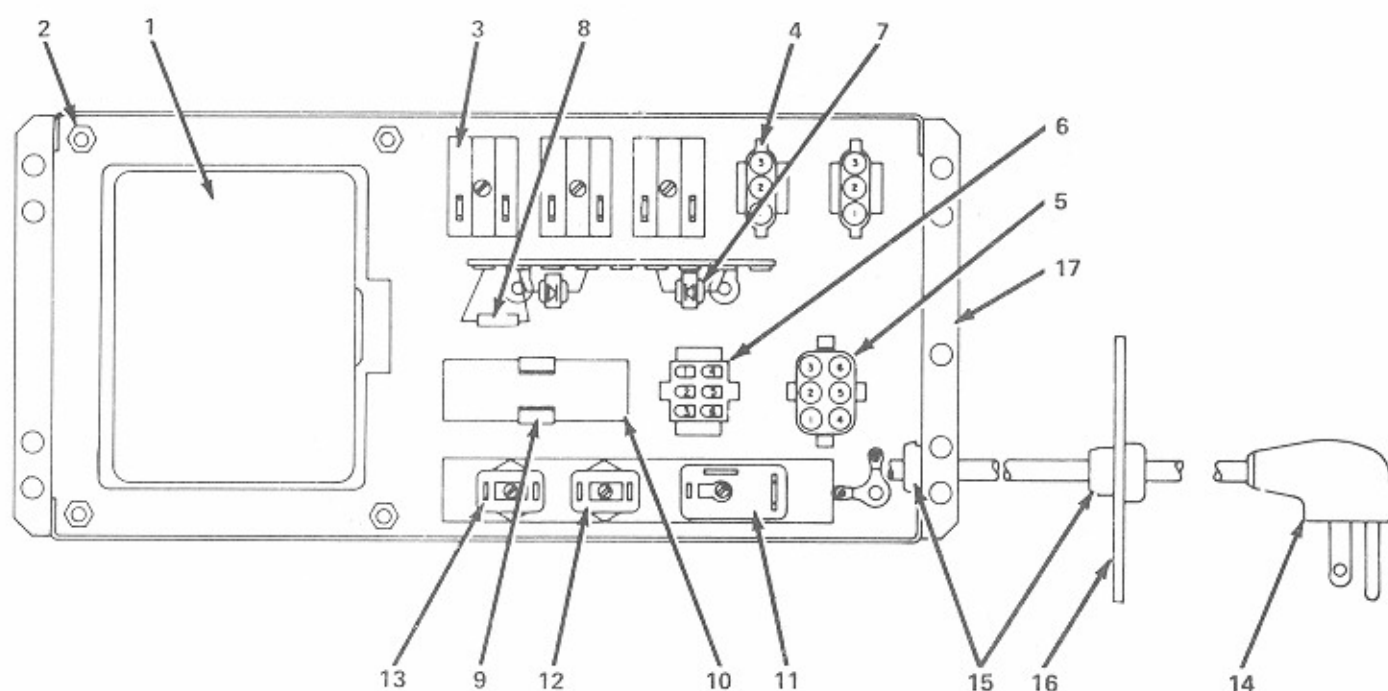


FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
20-	401-06703	Junction Box Assembly (Figure 1, Item 61)	REF
1	400-05751	Transformer	1
2	201-17621	Nut, Hex, No.8-32	4
3	200-13759	Outlet Convenience, 3 Wire	3
4	202-17322	Housing, Socket, 3 Circuit	2
5	203-17322	Housing, Socket, 6 Circuit	1
6	202-12444	Housing, Socket, 6 Circuit	1
7	710-00350	Diode, Silicon, Motorola No. MR 752, 16A, 200V	2
8	708-00104	Resistor, Carbon, 4.7K, 1/2W	1
9	200-50174	Clip, Capacitor Mounting	1
10	710-00233	Capacitor, Electrolytic, 1250 MFD, 50V	1
11	725-00734	Circuit Breaker 10 Amp	1
12	715-00733	Circuit Breaker 2 Amp	1
13	717-00733	Circuit Breaker 3 Amp	1
14	201-11212	Cord and Plug Assembly	1
15	704-02321	Relief, Strain	2
16	200-14059	Cover, Cord Hole	1
17	301-07316	Junction Box With Lettering	1

Harness and Console Assembly

**FIGURE
22**

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
22-	602-07590	Harness and Console Assembly (Figure 1, Item 64)	REF
	302-07615	Switch Housing	1
	200-11016	Switch Knob	1
	200-11009	3 Position Switch (Scan Switch)	1
	703-00931	Cable Clamp	1
	204-13541	Combo-Line Cap Housing 7 Circuit (To Mute)	1
	201-13541	Combo-Line Cap Housing, 7 Circuit (To Amplifier Phono Speaker Plug)	1
	204-13540	Combo-Line Plug Housing, 7 Circuit (To Bill Acceptor)	1
	305-07491	Universal Connector Plug Housing, 9 Circuit (To Ext. Speaker)	1
	306-07491	Universal Connector Plug Housing, 12 Circuit (To Money Meter)	1
	206-12444	Mate-N-Lok Socket Housing, 3 Circuit, (To Stepper)	1
	202-12445	Mate-N-Lok Plug Housing, 6 Circuit (To Junction Box)	1
	203-12445	Mate-N-Lok Plug Housing, 9 Circuit (To Wallbox Power Supply and to Mechanism)	2
	204-12445	Mate-N-Lok Plug Housing, 15 Circuit (To Selector)	1
	201-50572	Edge Connector, 6 Circuit (To Coin Switches)	1
	207-50572	Edge Connector, 22 Circuit (To Credit Computer)	1
	201-17734	Lamp Socket (Credit Lamp)	2
	201-15818	Momentary Contact Pushbutton Switch (Credit Switch)	1
	201-17582	Credit Switch Mounting Bracket	1
	308-06792	Access Door Assembly	1
	201-15818	Momentary Contact Pushbutton Switch (Cancel Switch)	1
	704-00931	Cable Clamp	2

Shell Assembly

FIG. AND INDEX NO.	ROWE PART NO.	DESCRIPTION	QTY. PER ASSY
23-	601-08050	Shell Assembly (Figure 1, Item 109)	REF
	200-09326	. Teenut	6
	200-11006	. Teenut	2
	201-17506	. Tube, Vent	1
	202-17506	. Tube, Vent	1
	203-17506	. Tube, Vent	1
	701-02402	. Screen, Wire Mesh	1
	719-02401	. Screen, Wire Mesh	1
	300-06257	. Cover, Hand Hole	4
	401-06001	. Support Bracket Assembly	1
	200-14518	. Spring Lock	1
	401-06340	. Caster and Cup Assembly	4
	401-06489	. Skid Rail	2
	400-06206	. Gusset	1
	400-06207	. Gusset	1

CODE	ROWE PART NO.	
A	80053003	Screw, Machi
B	80053009	Screw, Machi
C	80322310	Screw, Machi
D	80351604	Screw, Machi
E	80351606	Screw, Machi
F	80351610	Screw, Machi
G	80359022	Screw, Machi
H	80413508	Screw, Machi
J	80432304	Screw, Machi
K	80432305	Screw, Machi
L	80433005	Screw, Machi
M	80442304	Screw, Machi
N	80442305	Screw, Machi
P	80442306	Screw, Machi
Q	80443004	Screw, Machi
R	80443005	Screw, Machi
S	80443006	Screw, Machi
T	80443008	Screw, Machi
U	80443010	Screw, Machi
V	80444408	Screw, Machi
W	80542307	Screw, Machi
X	80663008	Screw, Machi
Y	80664404	Screw, Machi
Z	80682304	Screw, Machi
AA	80684432	Screw, Machi
AB	80712304	Screw, Machi
AC	80712305	Screw, Machi
AD	80712306	Screw, Machi
AE	80712308	Screw, Machi
AF	80712310	Screw, Machi
AG	80713004	Screw, Machi
AH	80713005	Screw, Machi
AJ	80713006	Screw, Machi
AK	80713008	Screw, Machi
AL	80713012	Screw, Machi
AM	80713014	Screw, Machi
AN	80713706	Screw, Machi
AP	80714406	Screw, Machi
AQ	80714408	Screw, Machi
AR	80714432	Screw, Machi
AS	80731610	Screw, Machi
AT	80732303	Screw, Machi
AU	80732304	Screw, Machi
AV	80732305	Screw, Machi
AW	80733003	Screw, Machi
AX	80733004	Screw, Machi
AY	80733008	Screw, Machi
AZ	80733014	Screw, Machi
BA	80734404	Screw, Machi
BB	80734406	Screw, Machi
BC	80743708	Screw, Machi
BD	80751610	Screw, Cap, 5
BE	80751614	Screw, Cap, 5
BF	80754408	Screw, Cap, 5

STANDARD HARDWARE LIST

DESCRIPTION	CODE	ROWE PART NO.	DESCRIPTION
Pan Hd., 8-32 x 3/16	BG	80782703	Screw, Set, Socket Hd., Cup Pt., 6-32 x 3/16
Pan Hd., 8-32 x 9/16	BH	80783603	Screw, Set, Socket Hd., Cup Pt., 8-32 x 3/16
Flat Hd., Phil. SL. 6-32 x 5/8	BJ	80784804	Screw, Set, Socket Hd., Cup Pt., 10-32 x 1/4
Rd. Hd., Phil. SL., 4-40 x 1/4	BK	80786108	Screw, Set, Socket Hd., Cup Pt., 1/4-20 x 1/2
Rd. Hd., Phil. SL., 4-40 x 3/8	BL	82353005	Screw, Self-tapping, Rd. Hd., Phil. SL., Type 23 8-32 x 5/16
Rd. Hd., Phil. SL., 4-40 x 5/8	BM	82662304	Screw, Self-tapping, Hex Wr. Hd., Type 23 6-32 x 1/4
Rd. Hd., Phil. SL., 8-32 x 1-3/8	BN	82662305	Screw, Self-tapping, Hex Wr. Hd., Type 23 6-32 x 5/16
Hd., Phil. SL., 8-32 x 1/2	BP	82662306	Screw, Self-tapping, Hex Wr. Hd., Type 23 6-32 x 3/8
Hex Wr. Hd., Swage Form, 6-32 x 1/4	BQ	82662316	Screw, Self-tapping, Hex Wr. Hd., Type 23 6-32 x 1
Hex Wr. Hd., Swage Form 6-32 x 5/16	BR	82663004	Screw, Self-tapping, Hex Wr. Hd., Type 23 8-32 x 1/4
Hex Wr. Hd., Swage Form, 8-32 x 5/16	BS	82663005	Screw, Self-tapping, Hex Wr. Hd., Type 23
Hex Wr. Hd., Swage Form, 6-32 x 1/4	BT	82663006	Screw, Self-tapping, Hex Wr. Hd., Type 23 6-32 x 3/8
Hex Wr. Hd., Swage Form, 6-32 x 5/16	BU	82663008	Screw, Self-tapping, Hex Wr. Hd., Type 23 8-32 x 1/2
Hex Wr. Hd., Swage Form, 6-32 x 3/8	BV	82663010	Screw, Self-tapping, Hex Wr. Hd., Type 23 8-32 x 5/8
Hex Wr. Hd., Swage Form, 8-32 x 1/4	BW	82663016	Screw, Self-tapping, Hex Wr. Hd., Type 23 8-32 x 1
Hex Wr. Hd., Swage Form, 8-32 x 5/16	BX	82664406	Screw, Self-tapping, Hex Wr. Hd., Type 23 10-32 x 3/8
Hex Wr. Hd., Swage Form 8-32 x 3/8	BY	82664408	Screw, Self-tapping, Hex Wr. Hd., Type 23 10-32 x 1/2
Hex Wr. Hd., Swage Form, 8-32 x 1/2	BZ	82682310	Screw, Self-tapping, Hex Wr. Hd., Type 23 6-32 x 5/8
Hex Wr. Hd., Swage Form, 8-32 x 5/8	CA	82682314	Screw, Self-tapping, Hex Wr. Hd., Type 23 6-32 x 7/8
Hex Wr. Hd., Swage Form, 10-32 x 1/2	CB	82684412	Screw, Self-tapping, Hex Wr. Hd., Type 23 10-32 x 3/4
Rd. Hd., Phil. SL., Sems, 6-32 x 7/16	CC	83663010	Screw, Self-tapping, Hex Wr. Hd., Type 25 8-32 x 5/8
Hex Wr. Hd., 8-32 x 1/2	CD	86323620	Screw, Self-tapping, Flat Hd., Phil. SL., Type 17 8 x 1-1/4
Hex Wr. Hd., 10-32 x 1/4	CE	86323624	Screw, Self-tapping, Flat Hd., Phil. SL., Type 17 8 x 1-1/2
Hex Wr. Hd., 6-32 x 1/4	CF	86332305	Screw, Self-tapping, Oval Hd., Phil. SL., Type 17 6 x 5/16
Hex Wr. Hd., 10-32 x 2	CG	86332312	Screw, Self-tapping, Oval Hd., Phil. SL., Type 17 6 x 3/4
Hex Wr. Hd., Sems 6-32 x 1/4	CH	86662708	Screw, Self-tapping, Hex Wr. Hd., Type 17 6 x 1/2
Hex Wr. Hd., Sems 6-32 x 5/16	CJ	86663610	Screw, Self-tapping, Hex Wr. Hd., Type 17 8 x 5/8
Hex Wr. Hd., Sems 6-32 x 3/8	CK	86663612	Screw, Self-tapping, Hex Wr. Hd., Type 17 8 x 3/4
Hex Wr. Hd., Sems 6-32 x 1/2	CL	86663616	Screw, Self-tapping, Hex Wr. Hd., Type 17 8 x 1
Hex Wr. Hd., Sems 6-32 x 5/8	CM	87831600	Nut, Hex, 4-40
Hex Wr. Hd., Sems 8-32 x 1/4	CN	87833000	Nut, Hex, 8-32
Hex Wr. Hd., Sems 8-32 x 5/16	CP	87841600	Nut, Hex, Keps, 4-40
Hex Wr. Hd., Sems 8-32 x 3/8	CQ	87842300	Nut, Hex, Keps, 6-32
Hex Wr. Hd., Sems 8-32 x 1/2	CR	87843000	Nut, Hex, Keps, 8-32
Hex Wr. Hd., Sems 8-32 x 3/4	CS	87844400	Nut, Hex, Keps, 10-32
Hex Wr. Hd., Sems 8-32 x 7/8	CT	87845700	Nut, Hex, Keps, 1/4 x 20
Hex Wr. Hd., Sems 10-24 x 3/8	CU	87853000	Nut, Square 8-32
Hex Wr. Hd., Sems 10-32 x 3/8	CV	88931600	Washer, Flat 4
Hex Wr. Hd., Sems 10-32 x 1/2	CW	88932300	Washer, Flat 6
Hex Wr. Hd., Sems 10-32 x 2	CX	88933000	Washer, Flat 8
Hex Wr. Hd., Sems 4-40 x 5/8	CY	88934400	Washer, Flat, 10
Hex Wr. Hd., Sems 6-32 x 3/16	CZ	80374406	Screw, Machine, Truss Hd., Phil. SL., 10-32 x 3/8
Hex Wr. Hd., Sems 6-32 x 1/4	DA	80433008	Screw, Machine, Hex Wr. Hd., Swage Form 8-32 x 1/2
Hex Wr. Hd., Sems 6-32 x 5/16	DB	80433020	Screw, Machine, Hex Wr. Hd., Swage Form 8-32 x 1-1/4
Hex Wr. Hd., Sems 8-32 x 3/16	DC	80500508	Screw, Machine, Round Hd., Phil. SL., Sems 2-56 x 1/2
Hex Wr. Hd., Sems 8-32 x 1/4	DD	82681604	Screw, Self-tapping, Hex Wr. Hd., Type 23 4-40 x 1/4
Hex Wr. Hd., Sems 8-32 x 1/2	DE	82682304	Screw, Self-tapping, Hex Wr. Hd., Type 23 6-32 x 1/4
Hex Wr. Hd., Sems 8-32 x 7/8	DF	80311608	Screw, Machine, Fillister Hd., Phil. SL., 4-40 x 1/2
Hex Wr. Hd., Sems 10-32 x 1/4	DG	80501610	Screw, Machine, Round Hd., Phil. SL., Sems, 4-40 x 5/8
Hex Wr. Hd., Sems 10-32 x 3/8	DH	80712303	Screw, Machine, Hex Wr. Hd., Sems 6-32 x 3/16
Hex Wr. Hd., Sems Swage Form 10-24 x 1/2	DJ	80350909	Screw, Machine, Rd. Hd., Phil. SL., 3-48 x 9/16
Socket Hd., Cup Pt., 4-40 x 5/8	DK	80350912	Screw, Machine, Rd. Hd., Phil. SL., 3-48 x 3/4
Socket Hd., Cup Pt., 4-40 x 7/8	DL	80350924	Screw, Machine, Rd. Hd., Phil. SL., 3-48 x 1-1/2
Socket Hd., Cup Pt., 10-32 x 1/2	DM	80541604	Screw, Machine, Rd. Hd., Phil. SL. 4-40 x 1/4