

SEEBURG

TRANSISTORIZED AUTO SPEED UNIT

Type

45TASU1

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TRANSISTORIZED AUTO SPEED UNIT, Type 45TASU1

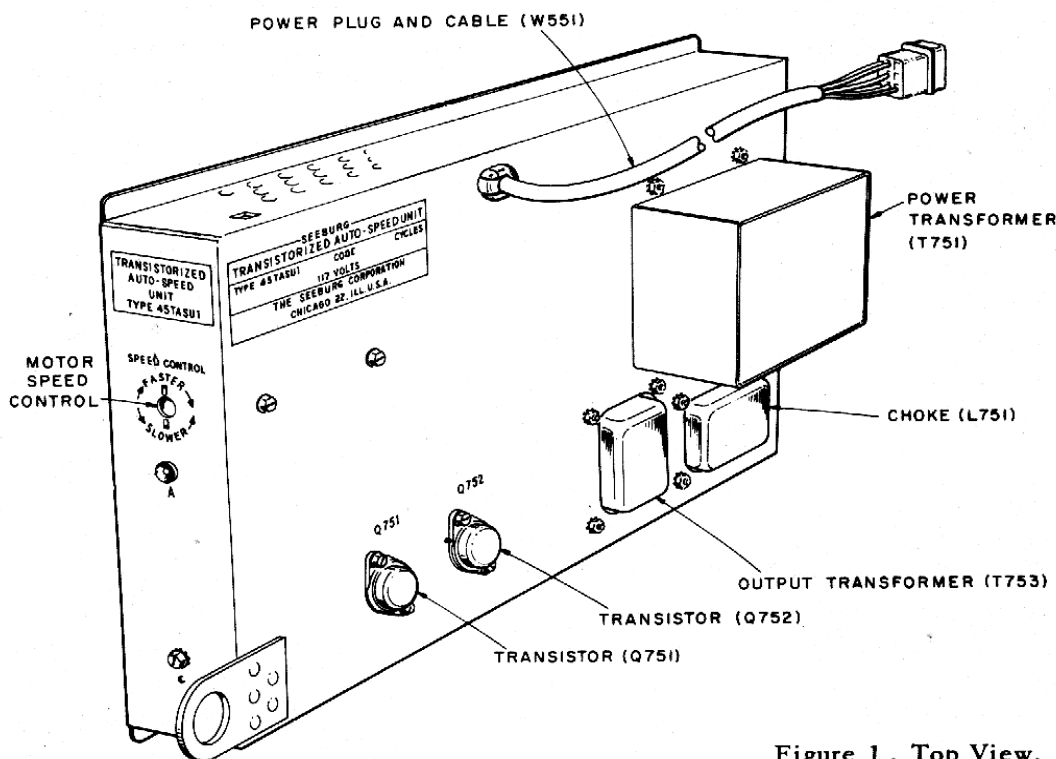


Figure 1. Top View.

The Transistorized Auto Speed Unit, Type 45TASU1, supplies 80-cycle AC power to the motor of the LPC Select-O-Matic phonograph when 45 rpm records are played. It is fully transistorized with power generated by a power converter that is controlled through circuits associated with the phonograph.

In addition to the power converter and its regulated power supply, the unit includes a Power Control Relay, a Motor Speed Control and a Test Point.

A saturable transformer (T751) used in conjunction with the choke (L751) and the condenser (C751) serves to regulate the input voltage to the converter transistors.

The converter transistors, Q751 and Q752, use the unit chassis for heat dissipation and must be held firmly to it with the mounting screws. The cases of these transistors are insulated from the chassis with mica washers. If one of the transistors is removed or changed, a new mica washer should be used and the washer should be coated with a liberal amount of silicone grease on both sides. Excess grease should be wiped off after the transistor is securely fastened in place.

In the application of the 45TASU1, the desired frequency for turntable speed of 45 rpm is approximately 80 cycles and is determined by using a strobe disc on the turntable. 7-inch strobe disc Part No. 487388 is used for 60 cycle operation and disc Part No. 487389 is for 50 cycle operation.

The adjustment should be made as follows:

1. Replace a record with the appropriate Auto Speed Strobe Disc. Light source frequency must conform to frequency indicated on the Strobe Disc.
2. Select Strobe Disc on to the mechanism turntable and carefully prop pickup arm out of the way.
3. Allow unit to run approximately 3 minutes.
4. Set the motor speed to 45 rpm. by adjusting the Motor Speed Control so that the outer and inner bands on the Strobe Disc move in opposite directions.
5. Remove the Strobe Disc.

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The output voltage and frequency remain relatively constant over a wide range of supply line voltage and load conditions because of the inherent stability achieved by regulating the DC power to the converter.

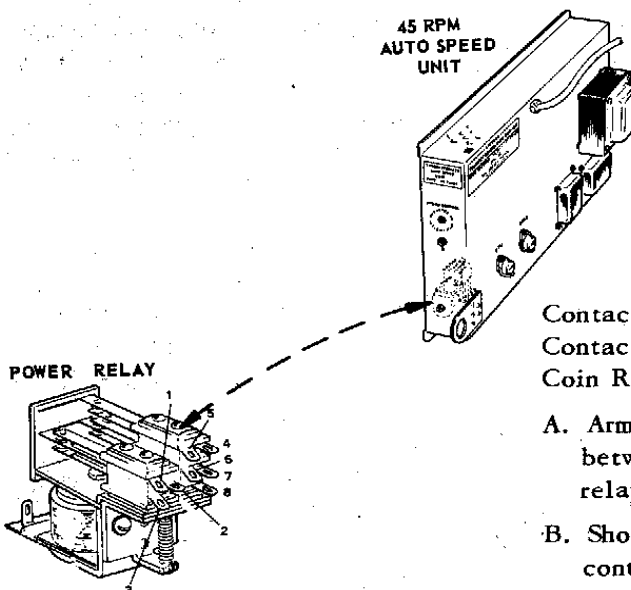
The Power Control Relay, when energized, transfers the phonograph motor connections from 60 to 80 cycle supply. It is controlled by a circuit that includes a single-pole, normally open clamp arm switch that is actuated by the record clamp arm on the mechanism. The size of the record spindle hole determines how far the clamp arm moves and whether or not the switch is actuated.

The 33-1/3 rpm record has a 5/16 inch spindle hole. It centers on the turntable with a 5/16 inch clamp arm centering pin and is held against the turntable by the face of the concentric 1 1/2 inch, 45 rpm centering "pin". When a 45 rpm record (with its 1 1/2 inch spindle hole) is played, the 1 1/2 inch diameter pin passes

through and the record is held against the turntable by the flat surface of the clamp disc. When a 45 rpm record is clamped, the clamp arm moves inward far enough to close the clamp arm switch. There is less arm movement when a 33-1/3 rpm record is clamped and the switch remains open.

The clamp arm switch is in series with the "P" contact on the cam switch and the "IC" contact on the reset lever switch. It provides a 25 volt circuit for the Power Control Relay. The IC contact is closed when a record is playing and opened when the mechanism is tripped from play. The "P" contact on the cam switch is closed only in the playing position. The clamp arm switch is closed when a 45 rpm record is clamped. The only time the relay is energized and power is supplied to the unit is when the mechanism is playing a 45 rpm record. At all other times - during transfer, scan and while playing a 33-1/3 rpm record - the relay is not energized and the motor is operating at 60 cycles.

POWER RELAY - CONTACT GAP AND PRESSURE ADJUSTMENTS



Contacts A, B, C and D - Motor Circuit.

Contact E - Input Power Circuit.

Coin Resistance (D.C.) - 24 ohms \pm 10%

A. Armature travel should be 1/16 inch measured between armature and armature back stop when relay is energized.

B. Short blades should move 1/64 inch when contacts make and break and bracers must support their respective contact blades.

C. Contact gap should be 1/32 inch as measured between B and D contacts when A, C and E are just opening. Check by manually releasing relay from energized position.

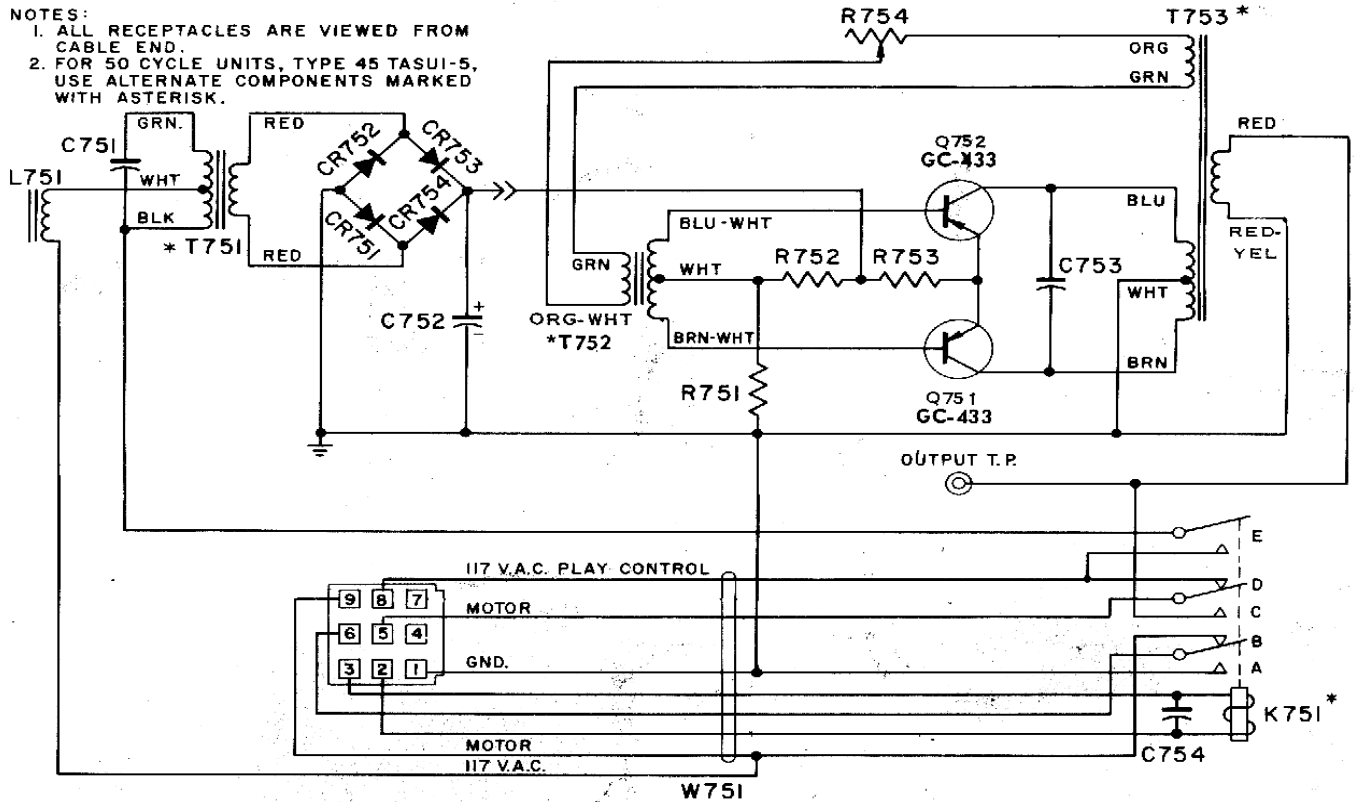
D. Long blades must touch the bottom of their respective slots in the lift when B and D are just closing.

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DRAWING NO. 307627

NOTES:

1. ALL RECEPTACLES ARE VIEWED FROM CABLE END.
2. FOR 50 CYCLE UNITS, TYPE 45 TASU1-5, USE ALTERNATE COMPONENTS MARKED WITH ASTERISK.



Item	Part No.	Description	Item	Part No.	Description
-	307600	45TASU1 Transistorized Auto-Speed Unit	†	84312	Power Transistor Socket
C751	86348	4 mfd 370 V.A.C. Oil Filled Paper	†	375074	Mica Insulator
C752	87725	1000 mfd 30V. Lytic	†	53015	Silicone Grease (2 oz. tube)
C753	86356	2 mfd 200V. Mylar	R751	81226	1000 ohm W.W. 5W. 10%
C754	86235	0.05 mfd 200V. Paper	R752	81225	27 ohm W.W. 5W. 10%
CR751	309387	Silicon Rectifier (200 PIV)	R753	81231	0.75 ohm W.W. 5 W. 10%
CR752			R754	307625	4 ohm W.W. Potentiometer
CR753			T751	307615	Power Transformer
CR754			* T751	307616	Power Transformer
K751	307623	Power Relay (60 cps)	T752	307621	Control Transformer
* K751	307624	Power Relay (50 cps)	* T752	307622	Control Transformer
L751	307619	Choke	T753	307617	Output Transformer
† Q751	309422	GC-433 Transistor	* T753	307618	Output Transformer
† Q752	309422	GC-433 Transistor	W751	307638	Power Plug & Cable Assembly

† USE MICA INSULATOR COATED WITH LIBERAL AMOUNT OF SILICONE GREASE ON BOTH SIDES WHEN MOUNTING POWER TRANSISTORS.