

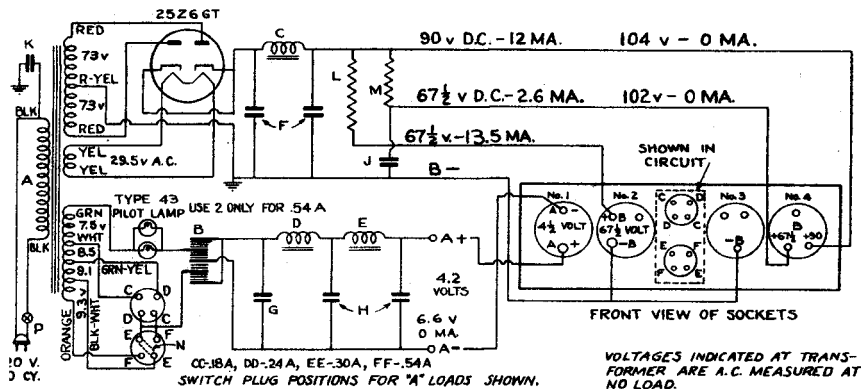


Sears Roebuck & Co.

	Model: Power Shifter	Chassis:	Year: Pre March 1942
	Power:	Circuit:	IF:
	Tubes:		
	Bands:		
Resources			
Riders 13 (XIII) SEARS 13-13			
Riders 13 (XIII) SEARS 13-16			
Riders 13 (XIII) SEARS 13-17			
Riders 13 (XIII) SEARS 13-18			
Riders 13 (XIII) SEARS 13-29			

MODEL 4701 Power Shifter

SEARS, ROEBUCK & CO. Chas. 139.450



WIRING DIAGRAM FOR SILVERTONE MODEL 4701 POWR SHIFTER

"A" SUPPLY

POWER DRAIN

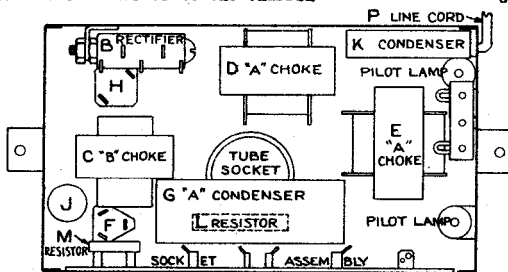
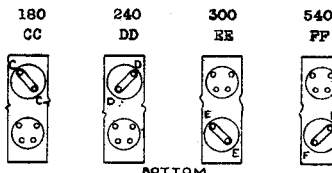
The "A" Supply is obtained from a full wave copper sulfide rectifier filtered by a condenser input filter consisting of three high capacity condensers and two low resistance chokes. Four taps on the power transformer rectifier winding in connection with two pilot lamp ballasts as regulators allow a fairly constant output voltage to be obtained with various "A" loads and line voltages. Terminal voltages for various loads are indicated on the wiring diagram.

The primary input is 22 watts when the "A" circuit is loaded to 540 MA. with switch plug in proper position and both pilot lamps in the circuit, and the "B" circuit is loaded to 12 MA. The input watts under no-load should be approximately 12 watts and the primary current without load, not more than 160 MA. at 120 volts, 60 cycles.

SWITCH PLUG POSITION FOR "A" CURRENTS IN MA.

"B" SUPPLY

The "B" supply employs a 2526GT rectifier tube operated as a full wave rectifier feeding into a condenser input filter followed by a choke and another condenser. Voltage dropping resistors supply 67 1/2 volts at two load ratings and a 90 volts D. C. tap. The "A" and "B" circuits are not common to each other or to the chassis.



MAY 8, 1940

FOR 4-1/2 VOLT
BATTERY RADIOS

MODEL 4708 Power Shifter

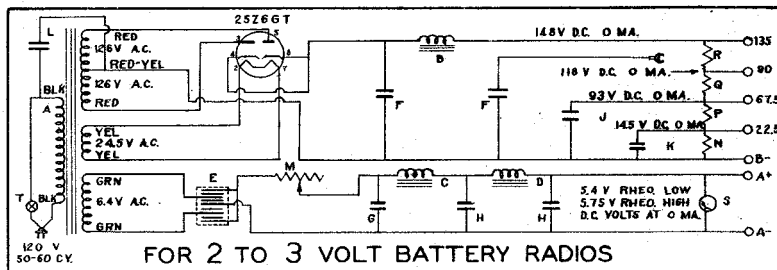
SEARS, ROEBUCK & CO.

Ch.139.200

OUTPUT RATINGS:

- "B" 135 V tap - 14MA. (28 MA. max.) - (148V no load)
 90 V tap - 14MA. (118V no load)
 67.5V tap - 2MA. load and 21 MA. on 135V tap - (93V no load)
 22.5V tap - with 19 MA. load on 22.5 to 135V tap - (16V no load)

- "A" 2 or 3 volts at 365 MA. to 670 MA.
 Adjust voltage by turning slotted shaft.



WIRING DIAGRAM FOR SILVERTONE MODEL 4708 POWR SHIFTER

"A" SUPPLY

The "A" supply is obtained from a full wave copper sulfide rectifier filtered by a condenser input filter consisting of three high capacity condensers and two low resistance chokes. A rheostat after the rectifier allows the voltage to be controlled over a wide range which is indicated by a voltmeter across the output.

"B" SUPPLY

The "B" supply employs a 25Z6GT rectifier tube operated as a full wave rectifier feeding into a condenser input filter followed by a choke and another condenser. A lead with spade lug from the second condenser is brought thru the chassis for proper filtering by connecting this to the highest B plus voltage tap used. Voltage dropping resistors supply 22.5, 67.5, 90 and 135 volts.

"A" SUPPLY FAILS

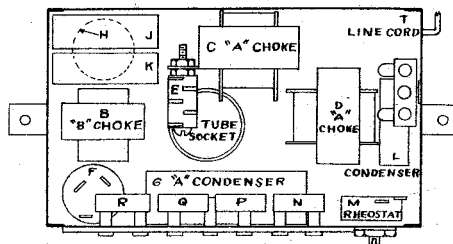
When the "A" voltage is excessively low the transformer, condensers or rectifier may be defective.

To check the transformer remove one green lead from the rectifier and measure for AC voltage indicated on the wiring diagram.

For "A" voltage may be caused by a dropping in capacity of the input condenser "G". To test for this condition, another condenser of 500 to 1000 MFD. may be connected across this condenser, and if an appreciable rise in the output voltage is observed it is obvious that the input condenser is low in capacity.

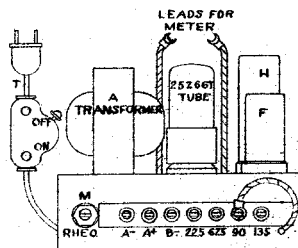
IMPORTANT: The copper sulfide rectifier is designed to give the voltages indicated on the wiring diagram when the unit is warmed up to normal operating temperatures. This heating up period is usually about 20 minutes with the Power Shifter "A" circuit loaded. The rectifier's characteristics are peculiar and for an accurate check the unit must be tested when hot.

When the Power Shifter has been out of service for some length of time (4 months or more) the "A" voltage may test low due to the inactive life of the rectifier. This is an inherent characteristic of the copper sulfide rectifier. To reactivate the rectifier it is only necessary to short the "A" plus and "A" minus terminals for a period of 4 to 5 minutes. The high temperature developed in the rectifier



LOCATION OF PARTS IN CHASSIS

SEPTEMBER 16, 1940



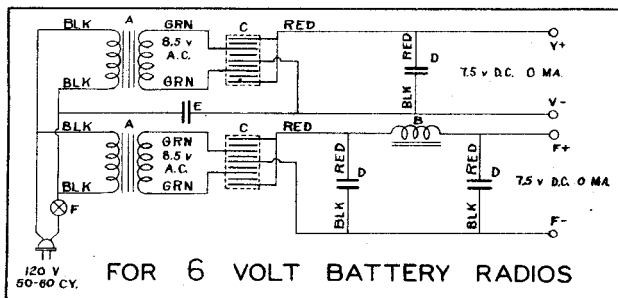
LOCATION OF PARTS ON CHASSIS

during this period has the tendency to restore the discs to their normal rectifying capacity. The unit will not be harmed by this process.

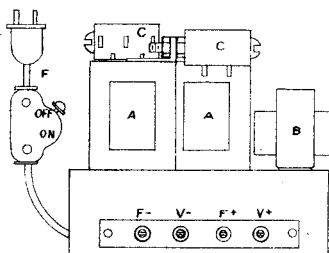
POWER DRAIN

The primary input at 120 volts 60 cycles is 26 watts when the "A" and "B" supplies have maximum rated loads. The input watts under no-load should be 12.5 watts and the primary current without load not more than 215 MA.

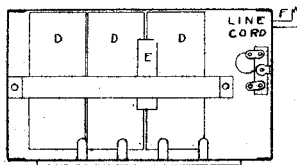
SEARS, ROEBUCK & CO.

MODEL 4709 Power Shifter
Chas. 139,600

LOCATION OF PARTS IN CHASSIS
WIRING DIAGRAM FOR SILVERTONE MODEL 4709 POWER SHIFTER



LOCATION OF PARTS ON CHASSIS



CHARTS SHOWING OUTPUT OF POWER SHIFTER
WITH 120V-60 CYCLE LINE INPUT

SINGLE "P" OR "V" SUPPLY	
AMPERES	VOLTS D.C.
0	7.54
.25	6.91
.50	6.62
.75	6.35
1.00	6.08
1.25	5.80
1.50	5.50

"P" AND "V" IN PARALLEL	
AMPERES	VOLTS D.C.
0	7.50
1.00	6.80
1.50	6.30
1.75	6.20
2.00	6.02
2.50	5.81
3.00	5.55

FILAMENT SUPPLY

The filament supply, marked "P" on the terminal strip, is obtained from a full wave copper sulfide rectifier feeding into a high capacity condenser input filter followed by a low resistance choke and another high capacity condenser.

RETAIL SELLING PRICES PREPAID
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

KEY PARTS NO.	DESCRIPTION	SELLING PRICE EACH
A 1391018	POWER TRANSFORMER	\$1.80
B 1391019	FILTER CHOKE	1.35
C 1391020	RECTIFIER	4.20
D 1391017	CONDENSER 3000 MFD-6V	1.80
E 1391912	LINE CONDENSER .05 MFD 400V	.35
F 1391009	LINE CORD, SWITCH & PLUG	1.00
1391021	TERMINAL STRIP	.40
13920333	CHASSIS	.76
13920326	CHASSIS BOTTOM COVER	.25
13920330	CHASSIS TOP COVER WITH NAME PLATE	2.15
13920337	MOUNTING BRACKETS	.15
1391022	INSTRUCTION SHEET	

VIBRATOR SUPPLY

The vibrator supply, marked "V" on the terminal strip, is obtained from a full wave copper sulfide rectifier filtered by a single high capacity condenser. Terminal voltages for various loads are indicated on the load charts.

POWER DRAIN

The primary input with a single "V" or "P" supply loaded to 0.75 amperes is 17 watts, and with the two supplies in parallel and a 2.00 amp load the input watts are 30. At rated load of 3.0 amperes the primary drain is 45 watts.

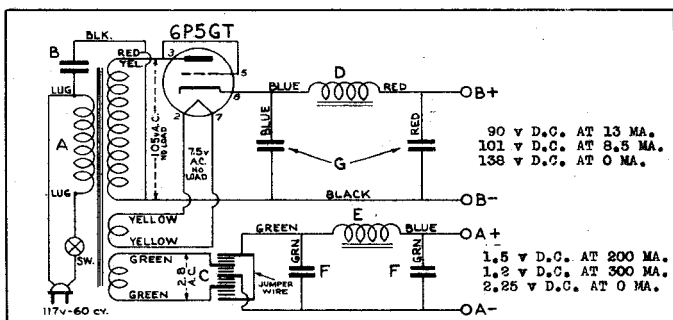
TWO SEPARATE SUPPLIES

Several different basic designs in six volt single battery radios have made it necessary to provide separate supplies for the vibrator and for the filaments. This special design provides hum-free operation with proper installation of the Power Shifter. The two separate sources of D.C. power labeled "P" and "V" may be considered the equivalent of two separate six volt batteries.

SEPTEMBER 16, 1940

Chas. 139,210

SEARS, ROEBUCK & CO.



WIRING DIAGRAM FOR SILVERTONE MODEL 5302 POWER SHIFTER
FOR 1 1/2 VOLT BATTERY RADIOS OF 4 OR 5 TUBES

"A" SUPPLY

The "A" supply is obtained from a full wave copper sulfide rectifier filtered by a condenser input filter consisting of two condensers and a low resistance choke. Terminal voltages with and without loads are indicated on wiring diagram.

"B" SUPPLY

The "B" supply employs a 6P5GT tube operated as a half wave rectifier operating into a condenser input filter of one choke followed by another condenser.

The "A" and "B" circuits are not common to each other or to the chassis. Different tube biasing methods make this necessary.

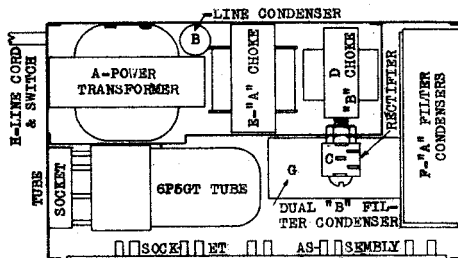
POWER DRAIN

The primary input is 7 watts when the "A" and "B" circuits are loaded as indicated on wiring diagram. The input watts under no-load should not be more than 4.5 watts and the primary current without load not more than 110 MA at 117 volts, 60 cycles.

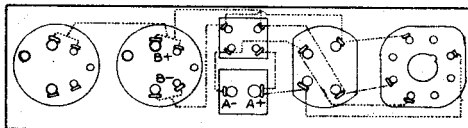
"A" SUPPLY FAILS

When the "A" voltage is excessively low the rectifier, condensers or transformer may be defective. To check the transformer remove one green lead of transformer winding from the rectifier and measure for A.C. voltage indicated on wiring diagram. To check the rectifier remove green lead from choke "E" and condenser "H". -- also

disconnect one side of jumper wire and measure D.C. voltage across rectifier. This should be 1.4 to 1.5 volts.



LOCATION OF PARTS IN CHASSIS



WIRING DIAGRAM OF SOCKET ASSEMBLY (Back)

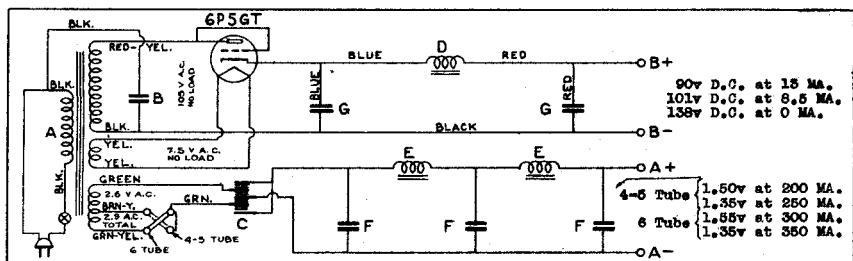
"B" SUPPLY FAILS

The 6SP0T tube should be checked with a standard tube tester. Care should be exercised in removing this tube as all parts fit closely in chassis. A small screw driver may be used as a light pry behind the base of the tube to assist in removal. Be sure the tube is inserted with proper key alignment to tube socket. Also if a metal base tube, make certain the insulating sleeve of fibre is replaced on the tube base to prevent it from touching or contacting other parts in the chassis.

The transformer may be tested by measuring the secondary plate winding with the red-yellow lead disconnected.

NOVEMBER 15, 1939

SEARS-ROEBUCK & CO.

MODEL 5303, Ch. 139, 700
Power Shifter

WIRING DIAGRAM FOR SILVERTONE MODEL 5303 POWER SHIFTER

"A" SUPPLY

The "A" Supply is obtained from a full wave copper sulfide rectifier filtered by a condenser input filter consisting of three condensers and two low resistance chokes. A tap on the power transformer allows the voltage on the rectifier to be changed giving two "A" load voltages. Terminal voltages for various loads are indicated on the wiring diagram.

"B" SUPPLY

The "B" supply employs a 6P5GT tube operated as a half wave rectifier operating into a condenser input filter of one choke followed by another condenser.

The "A" and "B" circuits are not common to each other or to the chassis. Different tube biasing methods make this necessary.

POWER DRAIN

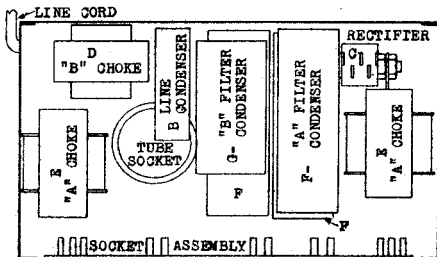
The primary input is 8 watts when the "A" and "B" circuits are loaded. The input watts under no-load should not be more than 4.5 watts and the primary current without load not more than 115 MA at 117 volts, 60 cycles.

"A" SUPPLY FAILS

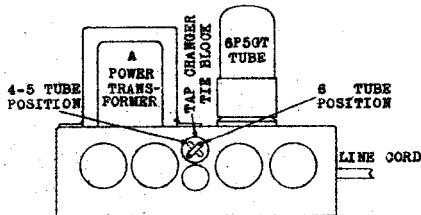
When the "A" voltage is excessively low the rectifier, condensers or transformer may be defective. To check the transformer remove one green lead of transformer winding from the rectifier and measure for A.C. voltage indicated on wiring diagram. To check the rectifier remove green lead from choke "B" and condenser "P", -- also disconnect one side of jumper wire and measure D.C. voltage across rectifier. This should be 1.4 to 1.5 volts with the tap changer tie block in the 4-5 tube position.

"B" SUPPLY FAILS

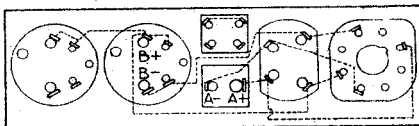
The 6P5GT tube should be tested with a standard tube tester. The transformer may be tested by measuring the A.C. voltage across the secondary plate winding with the red-yellow lead disconnected.



LOCATION OF PARTS IN CHASSIS



LOCATION OF PARTS ON CHASSIS



WIRING DIAGRAM OF SOCKET ASSEMBLY (Back)

NOVEMBER 15, 1939