MODEL C-41 AUTO RADIO

Type and Number of Radiotrons Used.....1 G.E.-41, 1 G.E .-78, 1 G.E.-6A7, 1 G.E.-6B7—Total, 4
Total Battery Current (With 6.3 volts between chassis and A (hot) terminal 5.35 Amperes
Undistorted Output.....1.6 Watts
Loudspeaker Field Current.....1.35 Amperes
Filtered D. C. Voltage from Rectifier.....227 Volts
Total Plate Current.....47.5 M. A.

This four tube Superheterodyne Automobile Receiver is of compact construction and gives excellent performance. Features such as unit construction (one unit contains the receiver, "B" battery eliminator and loudspeaker), ease of installation, freedom from ignition noise and excellent sensitivity, selectivity and tone quality characterize this instrument.

"B" Battery Eliminator

This receiver uses a vibrator-type Inverter-Rectifier that provides a source of direct current voltage for use as plate and grid supply for all Radiotrons. *This unit is accurately adjusted and sealed at the factory and service adjustments should not be attempted.*

Line-up Capacitor Adjustments

The three R. F. line-up capacitors and two I. F. tuning capacitors are accessible and may require adjustments. The R. F. adjustments are made at 1400 K. C. and the I. F. adjustments at 175 K. C. The R. F. adjustments can be made with the receiver in its case, access to the adjusting screws being obtained through a slot in the bottom of the case. For the I. F. adjustments, however, it is necessary to remove the rear cover in order to couple the oscillator to the first detector. The following procedure should be used for these adjustments:

R. F. Adjustment

A satisfactory accurate and rapid adjustment of the three R. F. line-up capacitors can be made by ear, although, for optimum results, the use of an output meter connected across the loudspeaker voice coil is recommended. The latter method however, involves removal of the rear cover to connect the meter, thus in turn eliminating the shielding effect of the case. Temporary shielding for the bottom and Radiotron sides of the chassis and for the transformer therefore must be provided to prevent vibrator interference.

(a) Procure a modulated oscillator giving a signal at 1400 K. C. and a non-metallic screw driver.

(b) Couple the output of the oscillator from antenna to ground, set the dial at 140, and the oscillator at 1400 K. C.

(c) Place the oscillator and receiver in operation and adjust the oscillator output so that a weak signal is obtained in the loudspeaker when the volume control is at its maximum position.

(d) Then adjust the three line-up capacitors until maximum sound in the speaker or maximum deflection of the output meter is obtained. Readjust these capacitors a second time as there is a slight interlocking of adjustments.

I. F. Adjustments

In order to make the I. F. adjustments, it is necessary to remove the rear cover, due to the fact that the external oscillator must be connected between the control grid of the first detector and ground. Proceed as follows:

(a) Procure a modulated oscillator giving a signal at 175 K. C., a non-metallic screw driver and an output meter.

(b) Remove the receiver from its case, shield the transformer and Radiotrons as described under R. F. adjustments, place the receiver in operation and connect the oscillator output between the first detector grid and ground. Connect the output meter across the voice coil of the loudspeaker. Then connect the antenna lead to ground and adjust the tuning capacitor so that no signal except the I. F. oscillator is heard at maximum volume. With the volume control at maximum, reduce the external oscillator output until a small deflection is obtained. Unless this is done, the action of the A. V. C. will make it impossible to obtain correct adjustments.

(c) Each transformer has but one winding that is tuned by means of an adjustable capacitor, the other windings being untuned. The capacitors should be adjusted for maximum output.

At the time I. F. adjustments are made it is good practice to follow this adjustment with the R. F. adjustments, due to the interlocking that always occurs. The reverse of this, however, is not always true.

Practical Hints on Installation

The following suggestions may prove useful when making installations on the particular cars mentioned.

Chevrolet 1933—Mount chassis on left side, end against car bulkhead and use short flexible shaft. Use both capacitors, one on the ammeter and one on the generator. Use all suppressors. Place a copper screen under the toe board on right side, 10" x 10" to prevent the body from radiating ignition interference which may be picked up by the antenna. This screen must be grounded.

Plymouth 1933—Mount chassis on left side, back against car bulkhead and use 33 7/8" flexible shaft. Use both capacitors, one on the ammeter and one on the generator. Use all suppressors.

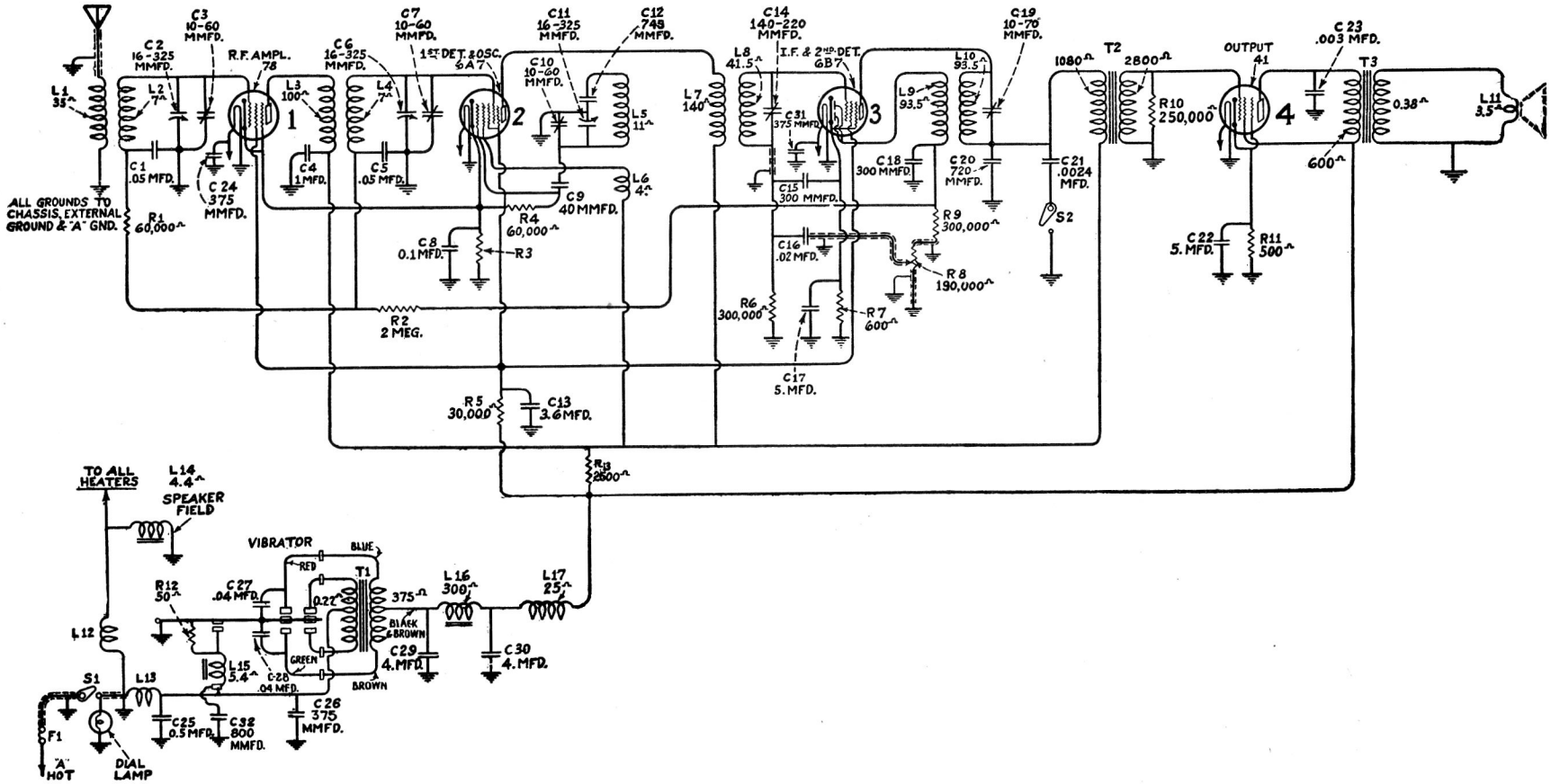
Ford V-8 1932 or 1933—Mount chassis on left side, end against car frame and use short flexible shaft. Use one capacitor, connected to the generator. Install eight spark plug type suppressors only, no distributor suppressor being necessary.

The majority of cars will be found to be entirely free from ignition noise when the standard equipment is used. Usually mounting the chassis on the right side of the bulkhead will be found most desirable, although if a heater is used, the left side will be preferable.

RADIOTRON SOCKET VOLTAGES

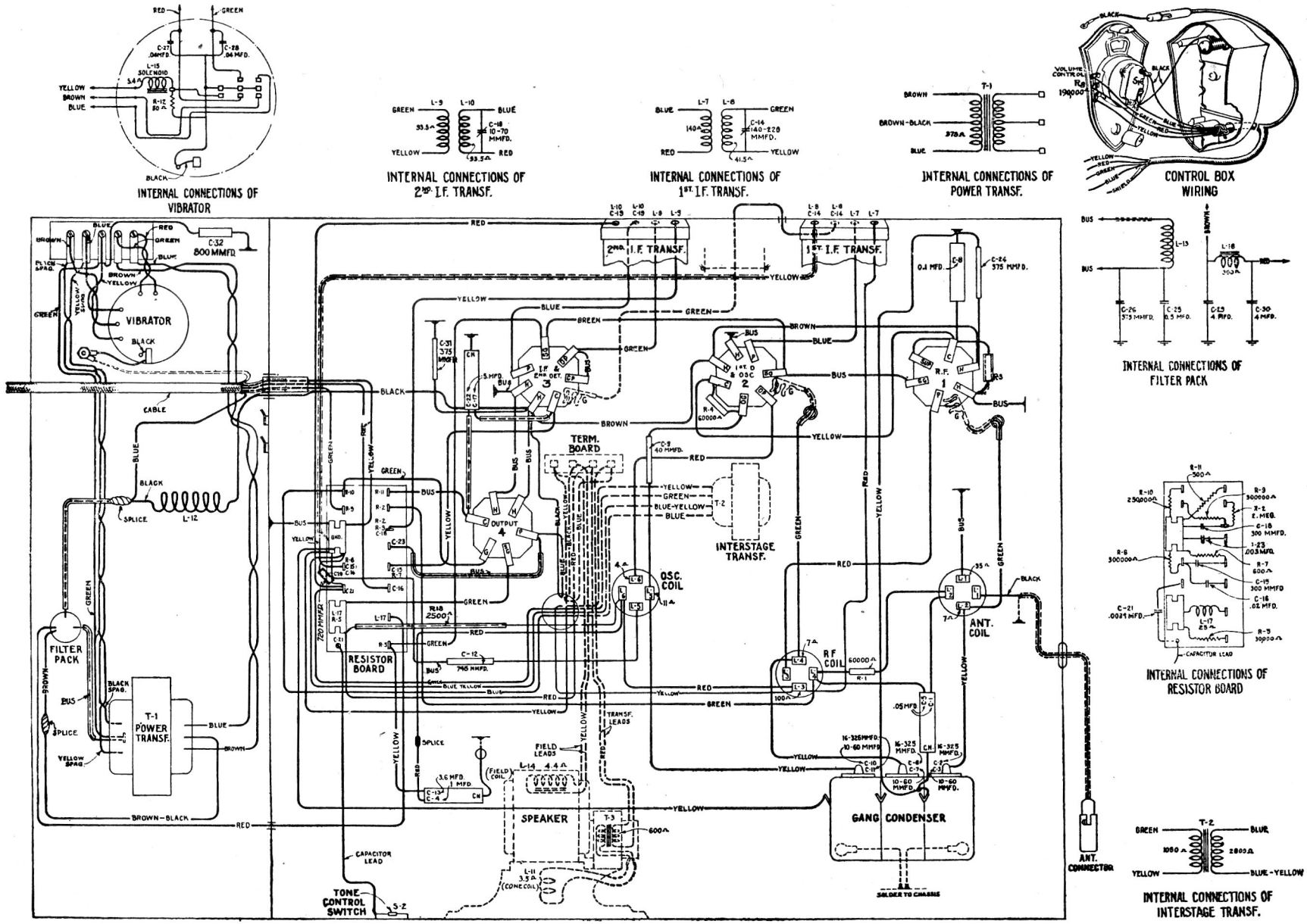
6.3 Volt Battery—No Signal

Radiotron No.		Cathode to Ground	Cathode to Screen Grid Volts	Cathode to Plate Volts	Cathode Current M. A.	Heater Volts
Type-78 R. F.		4.42	83	180	5.25	6.0
Type-6A7	First Detector	4.42	83	180	11.0	6.0
	Oscillator	4.42	—	180	Total	
Type-6B7 Second Detector		3.22	84	176	5.25	6.0
Type-41 Power		13.0	214	200	26.0	6.0



NOTE—Resistance of R-3 is 80 ohms.

Figure A—Schematic Diagram



NOTE—Resistance of R-3 is 80 ohms.

Figure— B Wiring Diagram.

REPLACEMENT PARTS—MODEL C-41

Key No.	Stock No.	DESCRIPTION
		RECEIVER ASSEMBLIES
	S-1029	Spring—Tuning Condenser Drive Cord tension Spring
	S-1151	Socket—Six contact Radiotron Socket
	S-1271	Cord—Tuning Condenser Drive Cord
	S-1312	Coil—R. F. Coil Assembly
C-8	S-1371	Capacitor—0.1 mfd.
	S-1402	Cable—Main Cable complete with Fuse Connector
R-5	2240	Resistor—30,000 ohms—Carbon Type—1 Watt.
	2747	Cap—Contact Cap
R-7	3218	Resistor—600 ohms—Carbon Type—¼ Watt.
C-17 & C-22	3536	Capacitor — Comprising two 5.0 mfd. capacitor.
	3572	Socket—Seven Contact Radiotron Socket
	3584	Ring—Antenna, R. F., or Oscillator Coil retaining Ring
R-1, R-4	3602	Resistor—60,000 ohms—Carbon Type—¼ Watt.
C-15, C-18	3616	Capacitor—300 mmfd.
L-17	3621	Coil—Choke Coil—Located on Resistor Board.
	3623	Shield—Antenna, R. F. or Oscillator Coil Shield.
R-11	3632	Resistor—500 ohms—Carbon Type—1 Watt.
	3636	Transformer—First Intermediate Frequency Transformer
	3637	Transformer—Second Intermediate Frequency Transformer
C-16	3639	Capacitor—0.02 mfd.
	3645	Knob—Tone Control Knob
C-24, C-31	3695	Capacitor—375 mmfd.
C-9	3696	Capacitor—40 mmfd.
C-20	3699	Capacitor—720 mmfd.
R-10	3744	Resistor — 250,000 ohms — Carbon Type — ¼ Watt.
C-12	3745	Capacitor—745 mmfd.
C-32	3746	Capacitor—800 mmfd.
C-23	3920	Capacitor—.003 mfd.
	3921	Mounting Screws, Washer and Bushing Assembly —For 3-gang variable tuning condenser—Comprising three spacers, three screws, three washers and three lockwashers
R-6, R-9	3922	Resistor — 300,000 ohms — Carbon Type — ¼ Watt.
C-21	3932	Capacitor—0.005 mfd.
R-3	4091	Resistor—80 ohms—Carbon Type—¼ Watt.
R-2	6242	Resistor—2 megohm—Carbon Type—¼ Watt.
	6470	Coil—Antenna Coil
	6471	Coil—Oscillator Coil Assembly
	6490	Tone Control Switch
C-4, C-13	6492	Capacitor—Comprising one 3.6 mfd. and one 1.0 mfd. capacitor
	6493	Drum—Tuning Condenser Drive Drum
C-1, C-5	6514	Capacitor—Comprising Two 0.05 mfd. capacitors
	6515	Cable—Shielded Cable with Antenna Connector.
	6516	Connector—Fuse Connector
T-2	6732	Transformer—Interstage Audio Transformer.
	7600	Filter Pack—Comprising one reactor, one choke coil, one 0.5 mfd., two 4.0 mfd. and one 375 mmfd. Capacitors
	7601	Condenser—3 Gang variable tuning Condenser.
T-1	9049	Transformer—Power Transformer
		CONTROL BOX ASSEMBLIES
	3649	Key—Volume Control and Switch Key
	3650	Screw—Self locking No. 10-32-⅜" full dog point set screw
	3651	Screw—Self locking No. 10-32-⅜" cupped point set screw
	3652	Screw—Self locking—No. 10-32-¼" cupped point set screw
	3690	Strap and Bracket Assembly—Comprising one bracket, two screws, one lockwasher and one strap
	3718	Bracket—Control Box Dash Mounting Bracket.
	3757	Coupling—Slotted Coupling for end of Flexible Drive Shaft
	3758	Connector—For control box end of flexible drive shaft
	6161	Knob—Station selector knob
	6496	Shaft—Flexible drive shaft complete with connectors—approximately 24⅞" long
	6497	Shaft—Flexible drive shaft complete with connectors — Standard length — Approximately 33⅞" long
R-8	6499	Volume Control—Combination volume control and switch
	6500	Nut—Volume control and switch lock nut
	6531	Shaft—Flexible drive shaft complete with connectors—approximately 12⅞" long
	6532	Shaft—Flexible drive shaft—complete with connectors—approximately 18⅞" long
	6784	Scale—Dial scale
	7695	Box—Control box complete
	7698	Cover—Control box cover
		MISCELLANEOUS PARTS
	S-1182	Suppressor—Distributor suppressor
	S-1201	Suppressor—Spark Plug suppressor
	S-1225	Lamp—Pilot Lamp
	S-1413	Insulator—Fuse Insulator, fibre insulator tube.
	3466	Connector—Antenna lead-in connector
	3646	Fuse—20 Amperes
	3647	Nut—Cap nut and lock washer—package of 10.
	3648	Screw—No. 10-32-⅝" cap screw and lock washer —package of 10
	3689	Bracket—Receiver mounting bracket, bolt and nut assembly—one set
	3791	Bushing and plate assembly—Flexible drive shaft bushing with plate, mounting screws, rubber bushings and washers—located on main case.
	3827	Cable—From fuse connector to ammeter
	3856	Clip—Spring clip—Grounds receiver chassis to metal housing
	3884	Clamp—Cable clamp
	4051	Bumper—Rubber bumper used in mounting receiver chassis—package of 4
	A-6000	Screw Driver—For R. F. and I. F. adjustments.
	S-1202	Suppressor—Splice in suppressor
	6494	Capacitor—Ammeter capacitor 0.5 mfd.
	6495	Capacitor—Generator capacitor 0.5 mfd.
	6670	Suppressor—Spark plug suppressor—"Elbow Type"
	7621	Antenna—Roof antenna—Paper Type—Brown.
	7622	Antenna—Roof Antenna—Paper Type—Gray.
	7686	Housing—Front section of housing
	7689	Vibrator—Complete
	7699	Housing—Rear section of housing complete.
	9050	Oscillator—Test Oscillator—150–25,000 K. C.
		REPRODUCER ASSEMBLIES
	S-1314	Cone—Reproducer cone complete
	S-1403	Screen—Metal screen.
	3688	Transformer—Output transformer
T-3	7608	Coil Assembly—Comprising field coil, magnet and cone support