CUSTOM MANUAL RADIOS FOR CHEVROLET-CHEVELLE-CHEVY II-CORVAIR-CHEVROLET TRUCKS-CORVAIR SERIES 95 TRUCKS MODELS 985875 - 985773 - 985957 - 985831 - 985672 - 985815

These radios are the superheterodyne type automobile radios designed for installation in 1964 passenger cars and trucks. The truck radios are designed especially for trucks and will stand the rugged hard use that trucks are subjected to.

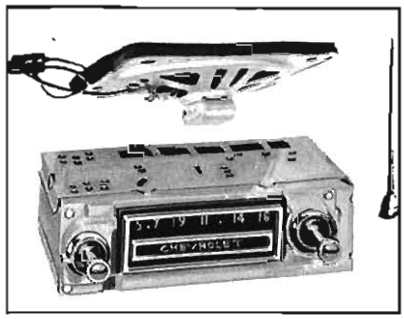
The radios contain 6 transistors and 3 diodes, one being a "HI-POWER" audio output transistor.

Using an external speaker affords the advantage of having a large speaker in a limited space. The speaker is coupled to the instrument panel by a special gasket, thereby using the instrument panel for unusually good tone reproduction.

TRANSISTOR COMPLEMENT & FUNCTION

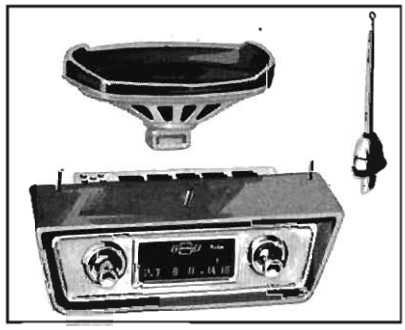
DS-51	Radio frequency amplifier transistor
DS-52	Converter transistor
DS-53	Intermediate frequency transistor
DS-46	Audio frequency driver transistor
DS-503	Audio output power transistor

CHEVROLET



CHEVELLE

CHEVY II



CORVAIR

CHEVY TRUCK

CORVAIR SERIES 95 TRUCK

Figure 25

GENERAL INFORMATION

Tuning Range 540-1615 kilocycles
Intermediate frequency - 262 kilocycles
Maximum power output - 8 watts
Undistorted power output - 6 watts
Current Drain 1.29 amps at 12 volts
Speaker - Alnico V permanent magnet type
Voice coil impedance 10 ohms at 400 cycles
Fuse protection 2.5 amperes
All circuits use printed circuit boards

SERVICE PROCEDURE FOR ALL MANUAL TUNED RADIO MODELS 985875 - 985773 - 985957 - 985831 - 985672 - 985815

IMPORTANT PRELIMINARY TEST

Turn radio on with ear next to speaker. As this is done a "thump" should be heard in the speaker. If O.K. go to Step 1. If no "thump" was heard, check:

a. Speaker connections and speaker for proper hook up.

b. Power connections, fuse and fuse resistor for open and proper hook-up.

c. Check DS503 transistor.

Check voltage of radio for correct voltages as shown in figure. If voltages are correct and radio does not play proceed as follows:

Turn on signal generator and set in audio position to obtain a 400 cycle audio signal. Ground one lead of signal generator to radio chassis. A .1 mfd, capacitor should be placed in series with the remaining lead to block D.C. current. The lead with the capacitor will be the probe for signal tracing. Keep radio volume control turned to maximum for all tests.

Note of Explanation: The signal or noise generator is now put into use, beginning with Step 1. The letters in parenthesis are found printed on the circuit board. For example, (AF-1) stands for "Audio Frequency" amplifier and refers to one of the DS46 transistors. (C) stands for collector.

The test points - Step 1 through Step 7 - are shown in Figure 28.

STEP 1. Touch generator probe to DS46 - AF-1 "B", a loud signal should be heard. If weak or no signal check:

a. Fuse resistor.

b. DS503.

c. DS46 transistors "AF-1 and AF-2". Check by bridging a good transistor across each one - one at a time.

STEP 2. Touch generator probe to green lead from volume control-island No. 26 on circuit board - a loud signal should be heard with volume control set at maximum volume. If no signal check:

a. 10 mfd. audio coupling capacitor, C53, by bridging a good one across it.

Change signal generator from audio position to generate an intermediate frequency signal. Set signal generator to 262 kilocycles.

STEP 3. Apply generator probe to base (B) of DS53 (IF) transistor. A loud signal should be heard without turning the generator controls to a very high level. This usually takes less than half the maximum settings on the signal generator, as will be learned by practicing with your generator on a good radio. If O.K. go to Step 4. If no signal or a very weak signal is heard, check:

a. DS53 transistor without removing it from the circuit. See "Procedure for Checking Transistors".

b. DS27 audio detector diode.

c. Voltage between collector (C) and ground in the DS53 (IF) stage should be "0" volts. If voltage is high, near 10 or 11 volts, trouble is due to: Open connection in the (IF) collector circuit (C), or open IF transformer, item T2.

d. Check DS53 (IF) conduction by measuring voltage across the 470 ohm resistor, item R13. Measure this by putting the positive lead of a D.C. voltmeter on conductor 2 on the circuit board, and the negative lead on the emitter (E) of the DS53 (IF) transistor. The voltage should read about 1.0 volt.

If the voltage is low or near "0", check for: Open connection on the circuit board in the (IF) base circuit (B) or emitter circuit (E). Check IF transformer, item T1, for open.

STEP 4. Apply generator probe to DS52 converter collector (C) and adjust generator output

to produce weak tone. Without changing generator controls, go to Step 5.

STEP 5. Apply generator probe to base (B) of DS52 converter transistor. An increase in signal should be noted, indicating DS52 transistor gain. If gain is not present, check:

a. DS52 without removing it from the circuit. See "Procedure for Checking Small Transistors".

b. Voltage between collector (C) and ground in the DS52 converter stage should be "0" volts. If voltage is high, near 10 or 11 volts, the trouble is due to one of the following: Open connection in the collector (C) circuit in the converter stage. Open IF transformer, item T1. Open oscillator coil, item L4.

c. Check DS52 converter conduction by measuring voltage across the 3900 ohm resistor, item R9. Measure this by putting the positive lead of a D.C. voltmeter on conductor number 2 of the circuit board, and the negative lead on the emitter (E) of the DS52 converter. The voltage should read about 1.0 volt.

   If the voltage is low or near "0", check for: Open connection on the circuit board in the converter base circuit (B) or emitter circuit (E).

   If the voltage is high, about 10 or 11 volts, check for: Shorted 220 mmf. condenser, item C12. Shorted .0047 condenser, item C11. Shorted trimmer, item C10.

d. If all above tests pass, align 1st IF coil. If coil fails to peak sharply replace it. See alignment procedure.

Change signal generator from intermediate frequency setting to radio frequency signal. Remove the .1 mfd. condenser from the probe lead of the signal generator. Place a 82 mmf. condenser in place of the .1 mfd. just removed. Set signal generator to 900 kilocycles and tune radio receiver to 900 kilocycles 9 on dial scale. A slight retuning of the radio dial may be necessary, once the signal is injected into the radio, to provide maximum signal through the radio.

STEP 6. Apply the generator probe to DS51 (RF) collector (C), and adjust generator output

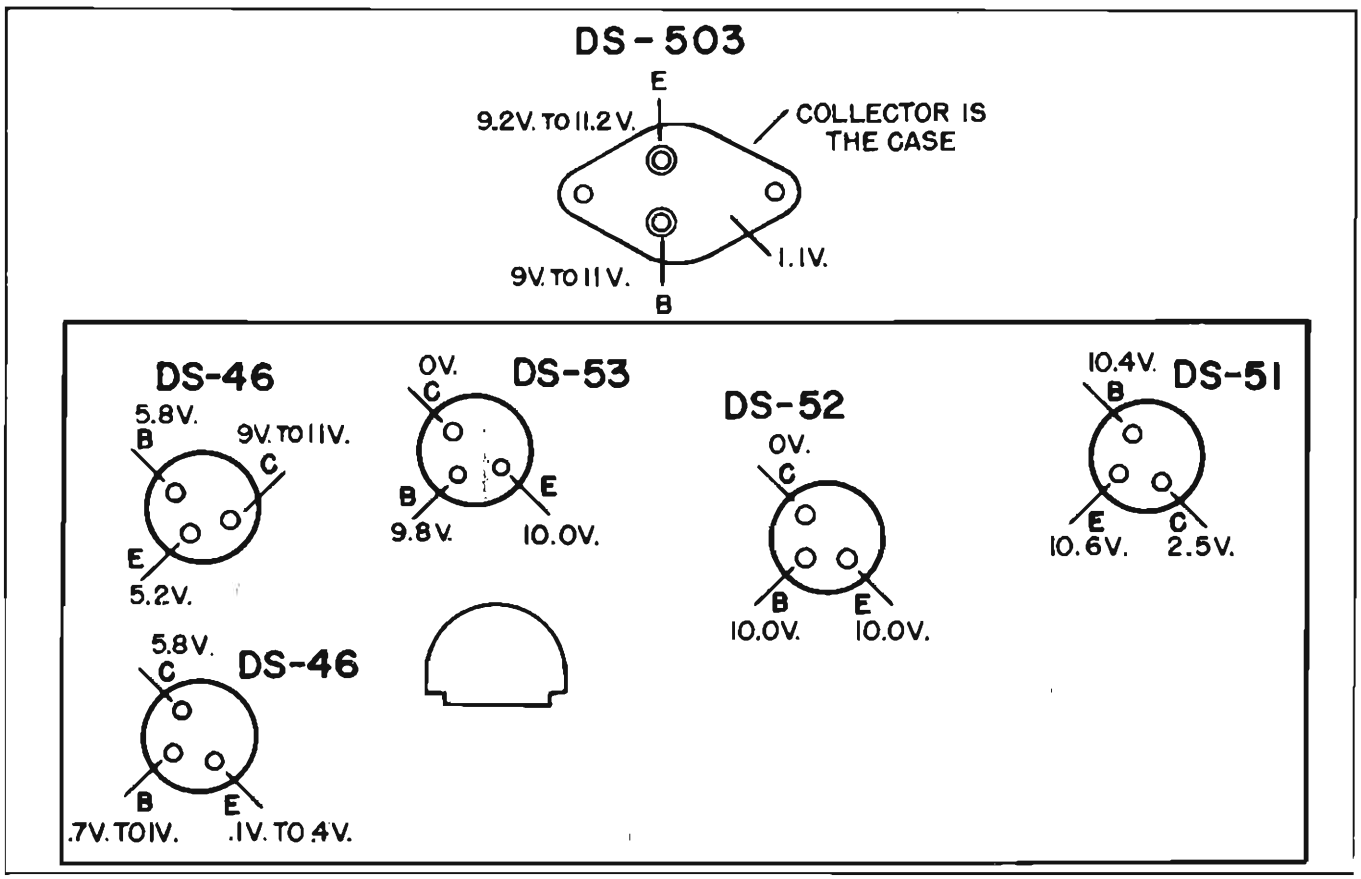


Figure 26 - VOLTAGE CHART - ALL MANUAL TUNED RADIO

to produce weak tone. Without changing generator controls, go to Step 7.

STEP 7. Move the generator probe to the antenna socket. A tone of equal or slightly less volume will result in the speaker. If signal at antenna socket is not heard, check:

a. DS51 transistor without removing it from the circuit. See "Procedure for Checking Small Transistors".

b. Check the voltage between the collector (C) and ground of the DS51 (RF) transistor. Should read about 2.5 volts D.C. with antenna disconnected from the radio.

If voltage is high, check:

a. DS27 AGC diodes.

b. RF coil, item L3 and resistor.

If voltage is low, near "0" volts, check: Check for opens in the DS51 (RF) base circuit (B) and emitter circuit (E). Check the antenna coil, item L2, for open.

c. If (RF) stage is dead but voltages are all O.K. check:

Antenna coil, item L2, for open. There are two windings on this coil, both at rear of tuner. Check antenna choke, item L1, for open. Check antenna trimmer, item C1, for short.

This completes the tests for a weak or dead radio. Below are additional hints which may help you find the trouble if it has not been located:

If noise can be heard in the speaker when the antenna is plugged in, but no stations can be picked up, the converter is probably not oscillating. To check for normal oscillation, measure the voltage across the 3.9K resistor, item R9 should be about 1.0 volt. Tune the radio from one end of the dial to the other while watching this voltage. If the voltage does not change slightly, the converter is not oscillating. Common causes of this are:

Open condensers in the DS52 converter circuit. Check by bridging them with good capacitors of the same value.

Defective DS52 transistor.

Defective trimmer, item C10.

If the radio plays loudly but is muffled on very strong stations, check the voltage between (RF) collector (C) and ground. This voltage should drop to a low value when turned to a strong station. If it doesn't, check:

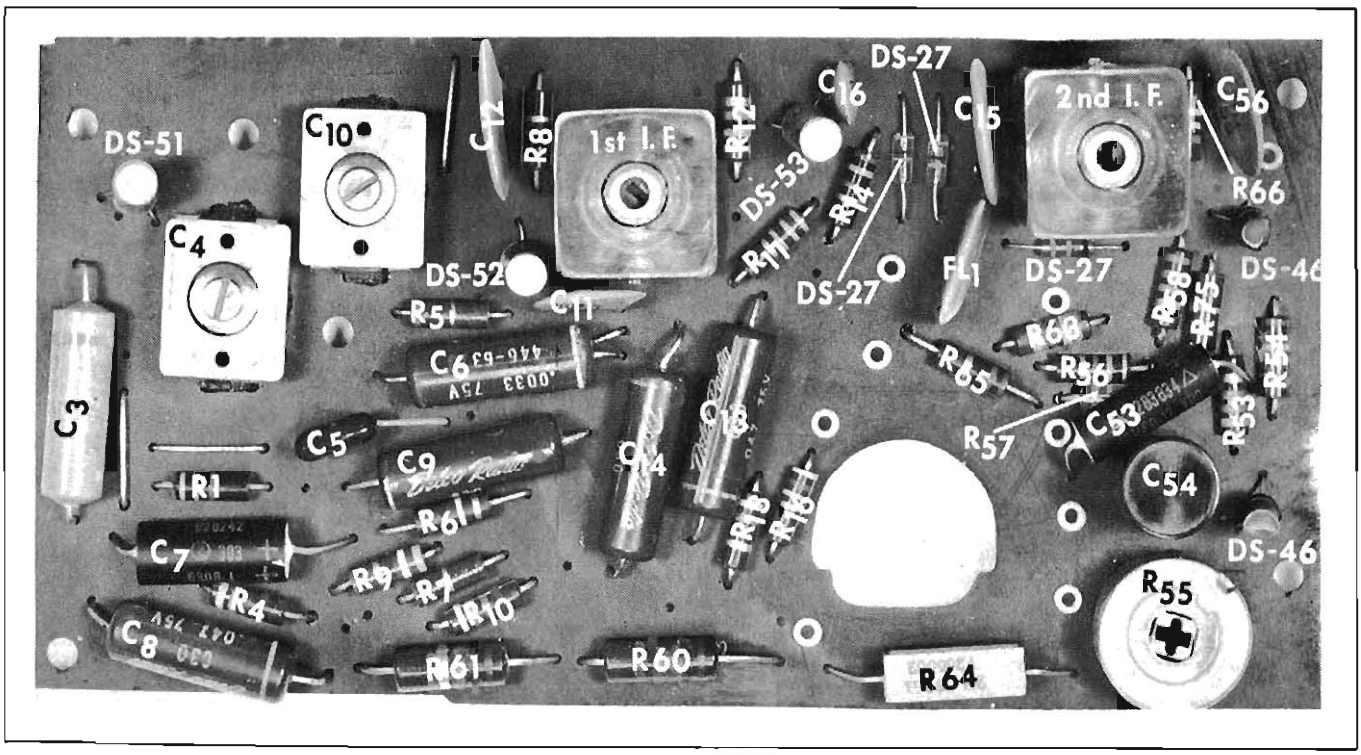


Figure 27 - PARTS LAYOUT ON CIRCUIT BOARD - ALL MANUAL - RADIOS

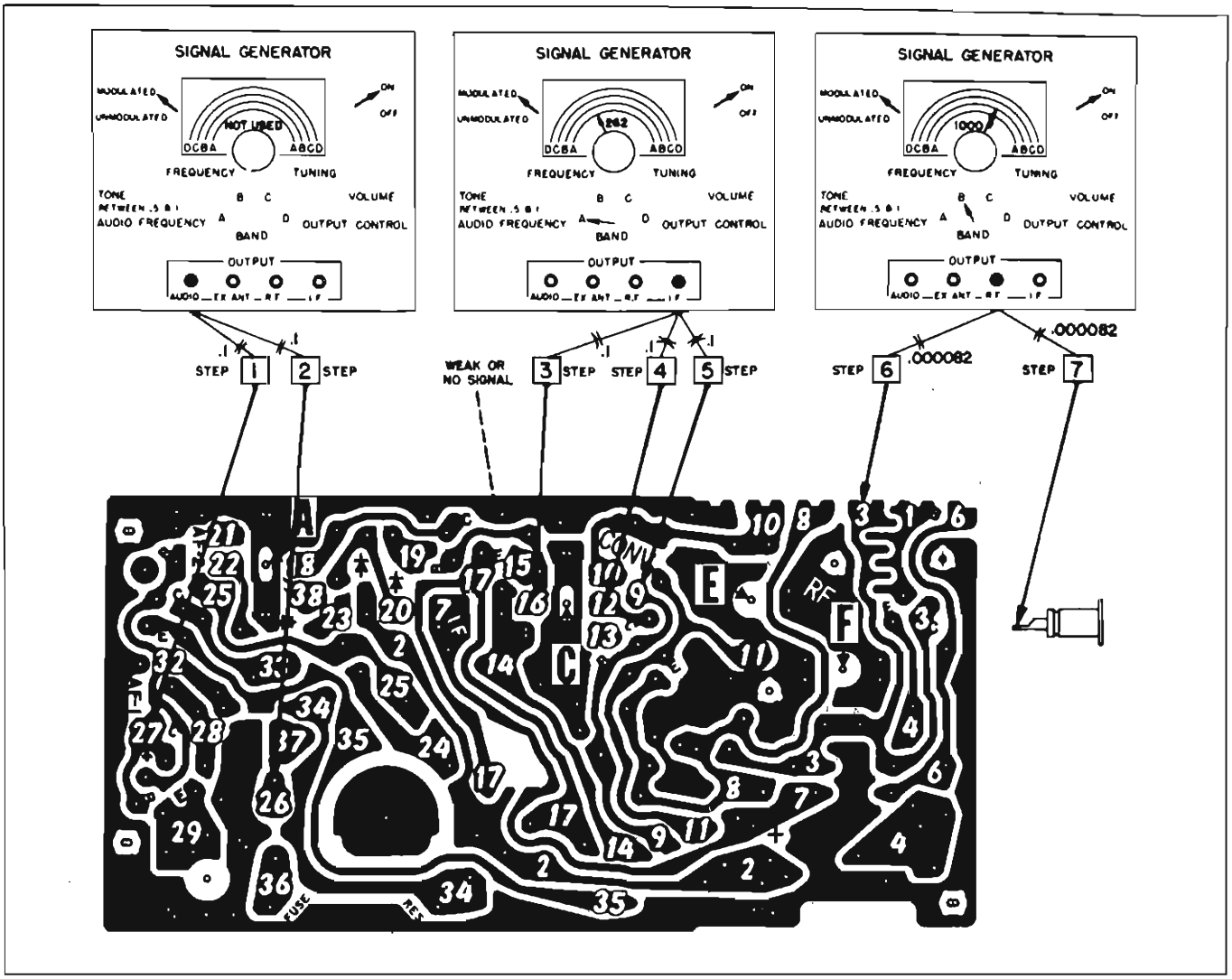


Figure 28 - SIGNAL TRACING PROCEDURE - ALL MANUAL - RADIOS

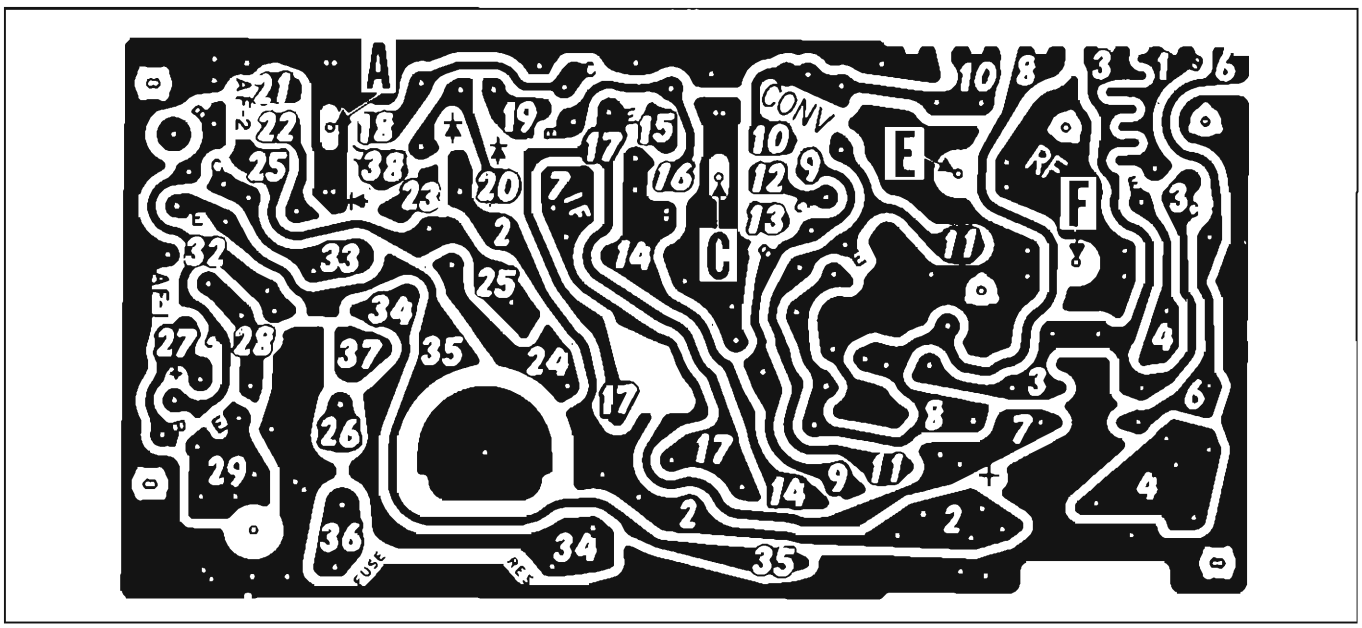


Figure 29 - ISLAND NUMBERS OF CIRCUIT BOARD - ALL MANUAL - RADIOS

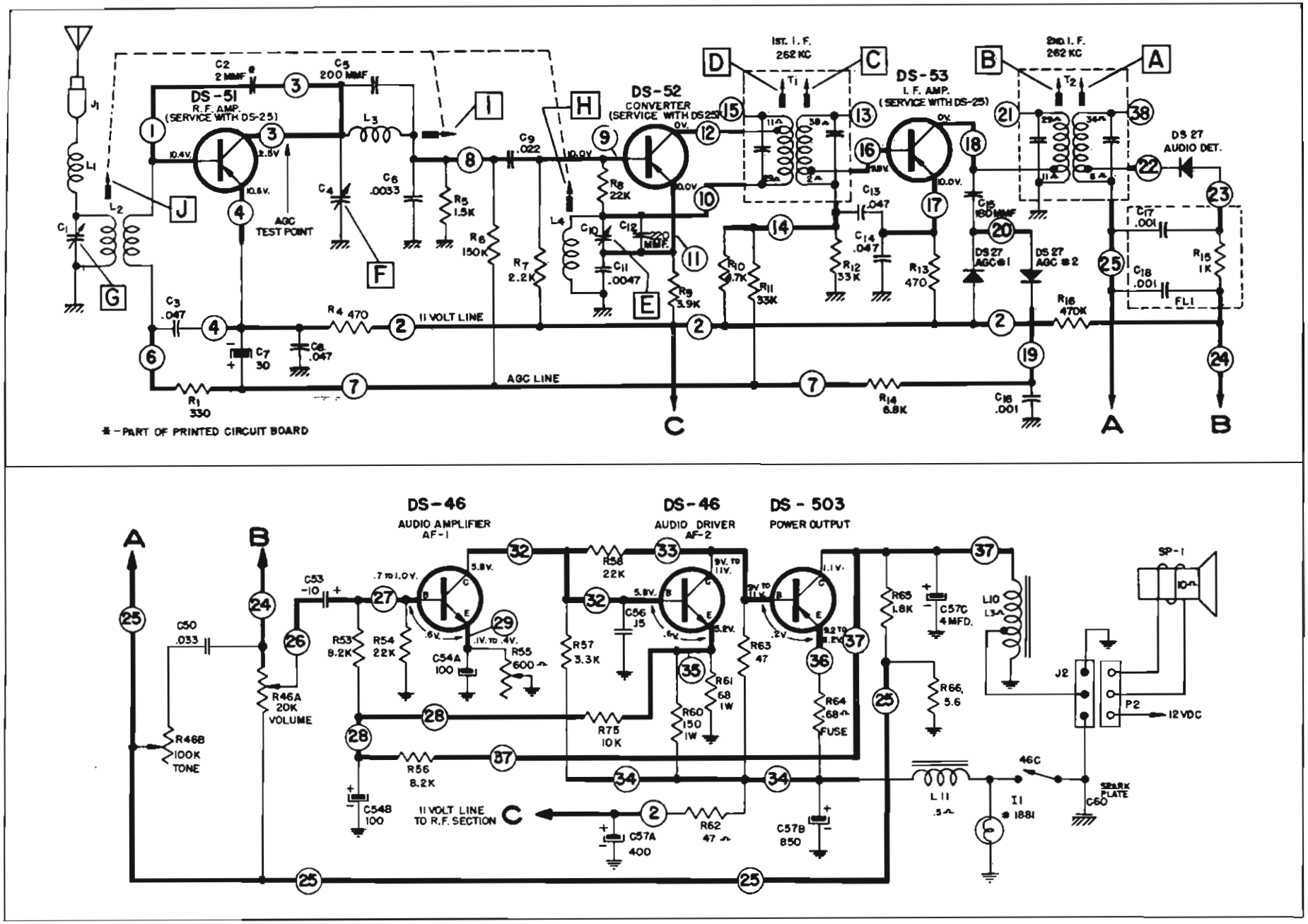


Figure 30 - CIRCUIT DIAGRAM - 985875 - 985773 - 985957 - 985831 PASSENGER CAR MANUAL RADIOS

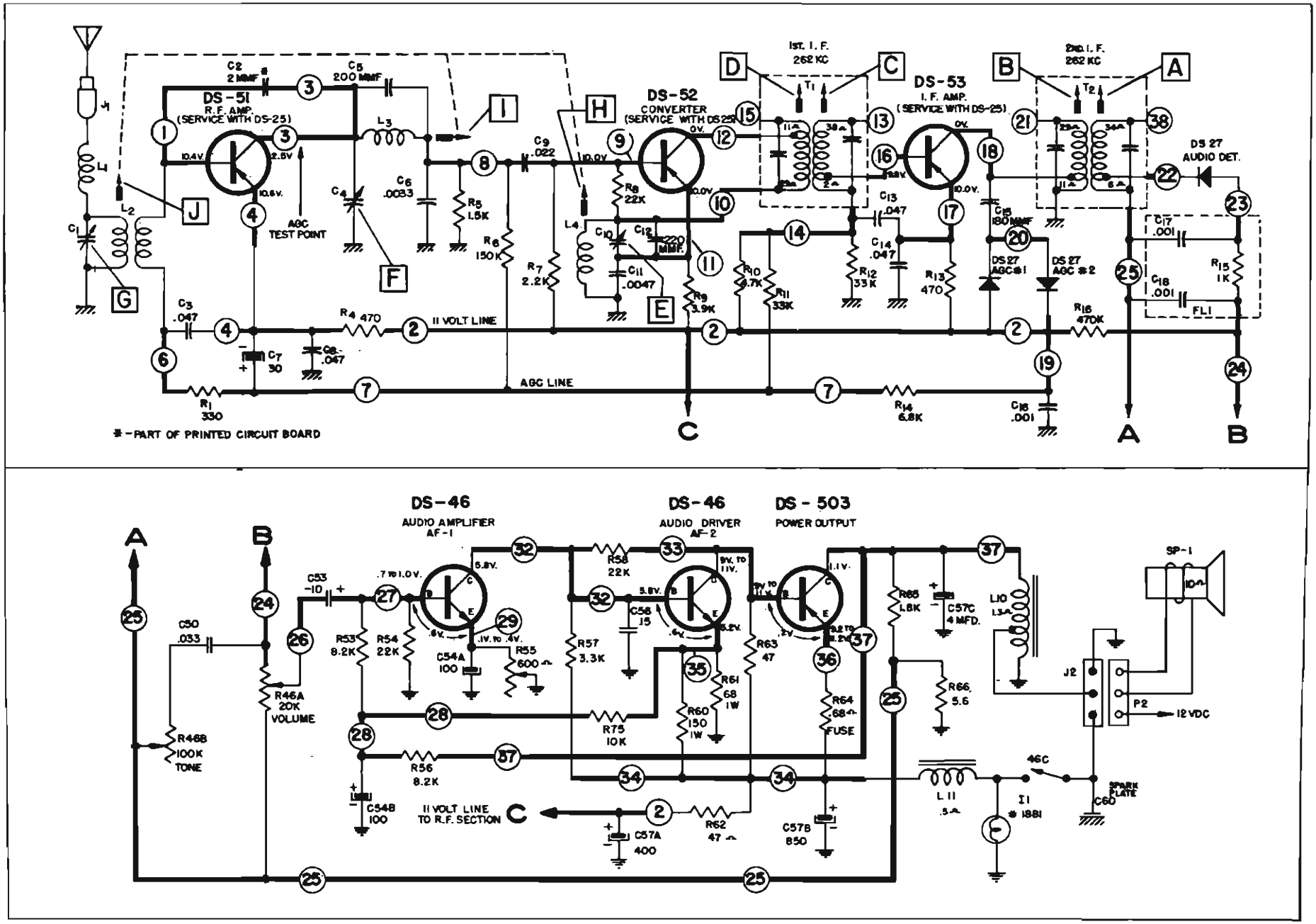


Figure 31 - CIRCUIT DIAGRAM - 985672 - 985815 - TRUCK MANUAL RADIOS

DS27 AGC diodes, items AGC1 and AGC2. When checked on the RX100 scale of an ohmmeter, there should be 5:1 ratio or better. Also check to see that those diodes are not mounted backward.

PROCEDURE FOR ALIGNMENT OF ALL CHEVROLET MANUAL RADIOS

All receivers are properly aligned at the factory and should require no further adjustments, except adjusting the receiver to the antenna when installation is made unless the adjustments have been tampered with, or new coils, intermediate frequency transformers or tuning cores have been installed.

To properly align the receiver, it will be necessary to have an output meter and signal generator.

NOTE: If any one of the tuning coils or cores have been replaced, see "Capacity and Inductance Alignment Procedure" before proceeding with alignment of the receiver. If only the adjustments have been tampered with or an intermediate frequency transformer has been replaced, proceed with the alignment as follows:

1. First hook up an output meter to the radio receiver. Any voltmeter which will read "A.C." can be used. Set the voltmeter in the 2.5 or 3 volt "A.C." range position, and ground one lead of meter to radio chassis. Place the other lead from voltmeter on the speaker terminal.

2. Turn on signal generator and set adjustments to obtain a 262 kilocycle signal. Connect one lead of signal generator to radio chassis for ground. Attach the other lead of signal generator to the base of the converter transistor.

3. Adjust signal generator volume control so that the volt meter will read about half scale.

   NOTE: Radio receiver volume control must be turned to the maximum position so that the automatic volume control circuit will not affect the alignment of the receiver.

4. Adjust in sequence cores "A, B, C and D" as shown on circuit diagram and parts layout for maximum meter reading. Repeat adjustments to get maximum meter readings. Keep the signal generator volume turned down so that during adjustments the meter does not read more than half scale. This will result in a better alignment of the receiver.

5. Next change signal generator setting to obtain a radio frequency signal and tune signal generator to exactly 1615 kilocycles. Place a 82 mmf. condenser to antenna connector and attach signal generator lead. Tune the radio receiver to the "Stop" on the 1600 kilocycle end of the dial. Keep the signal generator volume control adjusted so that output meter reads at about half scale.

6. Adjust trimmers "E, F and G", on circuit diagram and parts layout, in sequence for maximum readings on output meter. Repeat for maximum meter readings.

7. After the receiver has been installed in the car, turn on receiver and tune in a weak station near 1000 kilocycles with the radio volume control turned to maximum position and the antenna extended to full height. Readjust trimmer "G" ONLY for maximum volume.

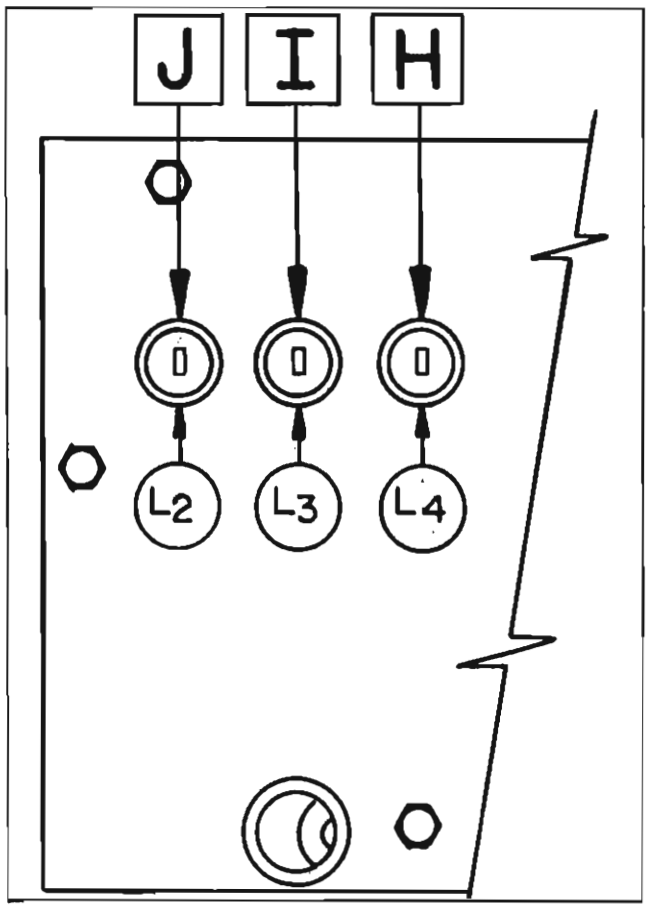


Figure 32 - TUNING CORE ADJUSTMENT

CAPACITY AND INDUCTANCE ALIGNMENT PROCEDURE FOR ALL CHEVROLET RADIOS

This alignment procedure is to be used only when any of the following parts have been replaced in the radio; antenna coil, radio frequency coil, oscillator coil, or any of the tuning cores.

The intermediate frequency alignment at 262 kilocycles is the same as outlined in "Alignment Procedure" operations 1 through 4. After completing the intermediate frequency alignment, proceed as follows:

1. Connect signal generator lead to a 82 mmf. condenser and connect to antenna terminal of antenna socket. Mechanically align iron core "H", on circuit diagram and parts layout to measure 1-3/8 in coil form from rear mounting edge of coil with radio tuned to stop on 1600 kilocycle end of dial.

2. With signal generator still adjusted to exactly 1615 kilocycles, adjust trimmers "E, F and G" on circuit diagram and parts layout in sequence for maximum output meter reading.

3. Tune signal generator and radio receiver to 600 kilocycles and readjust iron cores "J and I" ONLY, for maximum output meter reading.

4. Reset signal generator to exactly 1615 kilocycles and tune radio receiver to stop on 1600 kilocycle end of the dial. Then readjust trimmers "F and G" ONLY, until no further increase in output meter reading can be obtained.

5. After the radio receiver has been installed in the car, turn on the receiver and tune in a weak station near 1000 kilocycles, with radio volume turned to maximum position and antenna extended to full height. Readjust trimmer "G" ONLY, for maximum volume.

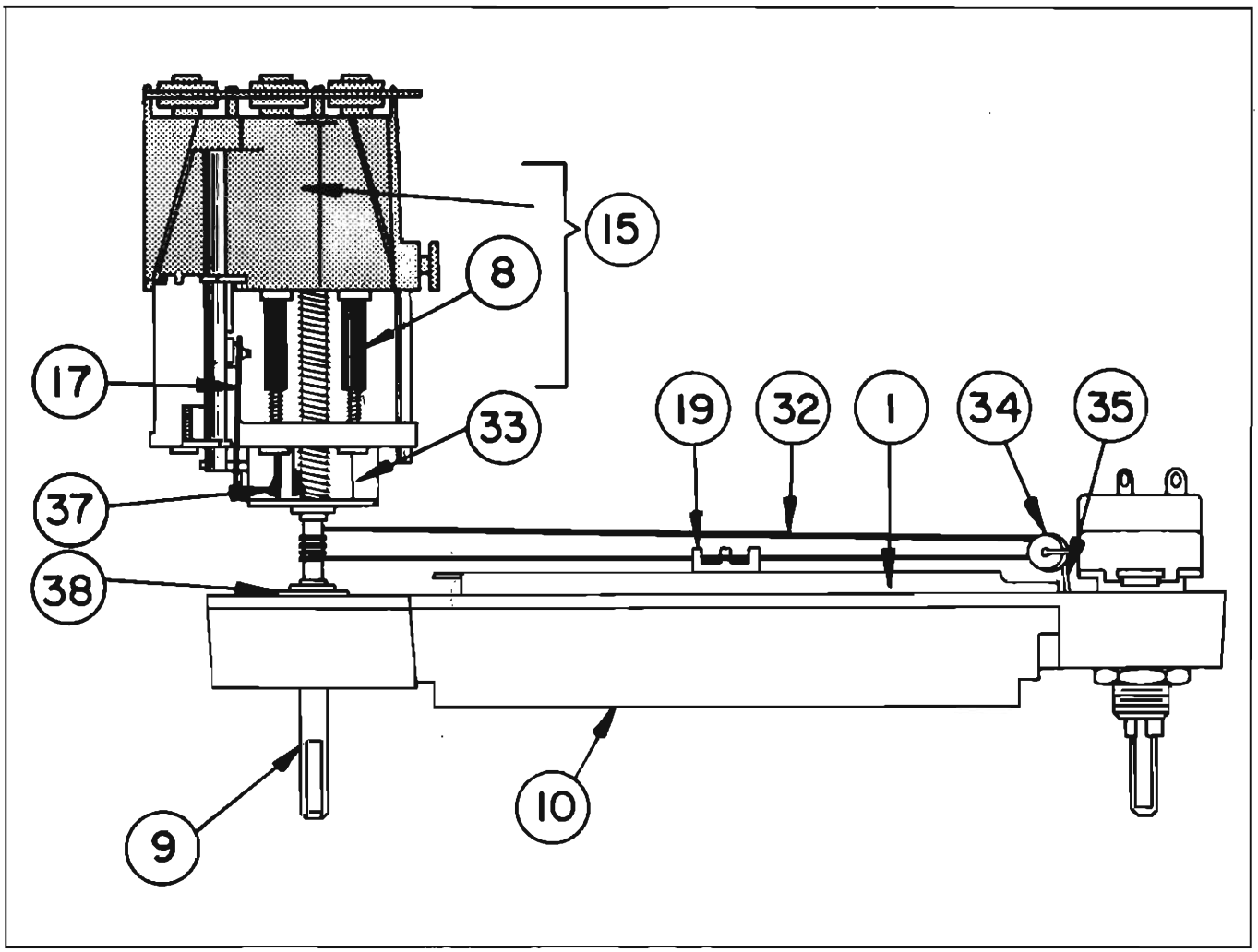


Figure 33 - TUNER PARTS LAYOUT AND DIAL CORD VIEW - ALL MANUAL TUNED RADIO

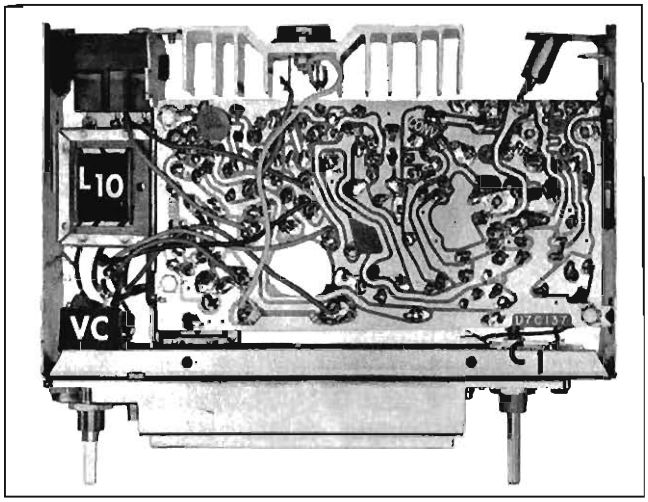


Figure 34 - CHEVROLET PARTS LAYOUT CIRCUIT BOARD VIEW - 985875 - RADIO

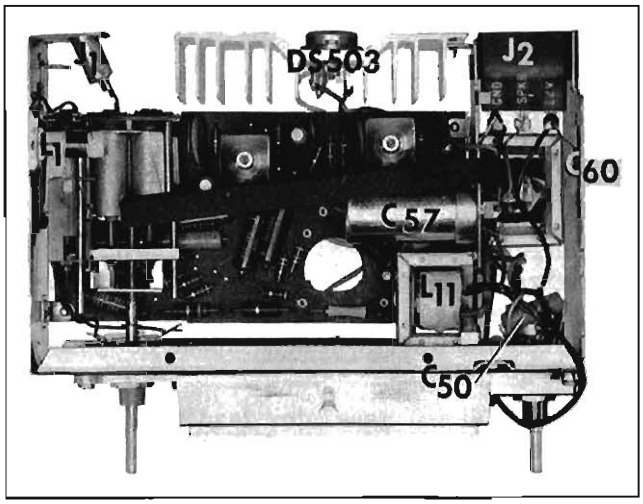


Figure 35 - CHEVROLET PARTS LAYOUT TUNER VIEW - 985875 - RADIO

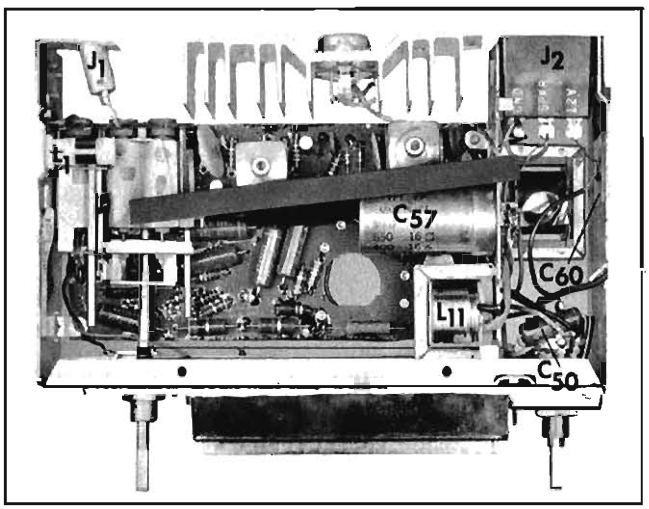


Figure 36 - CHEVELLE PARTS LAYOUT TUNER VIEW - 985773 - RADIO

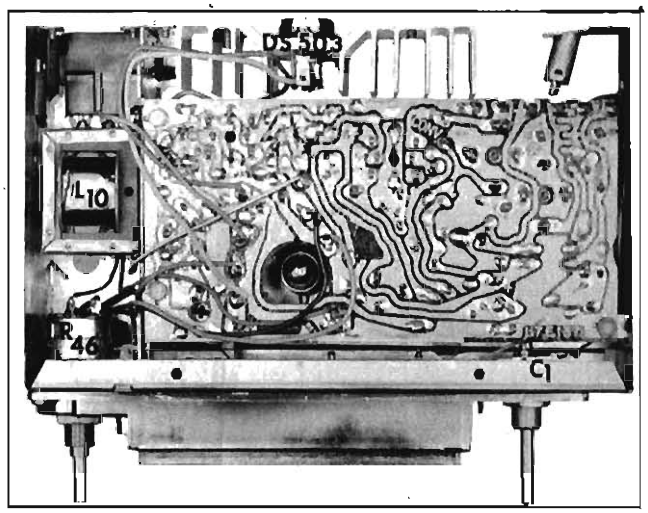


Figure 37 - CHEVELLE PARTS LAYOUT CIRCUIT BOARD VIEW - 985773 - RADIO

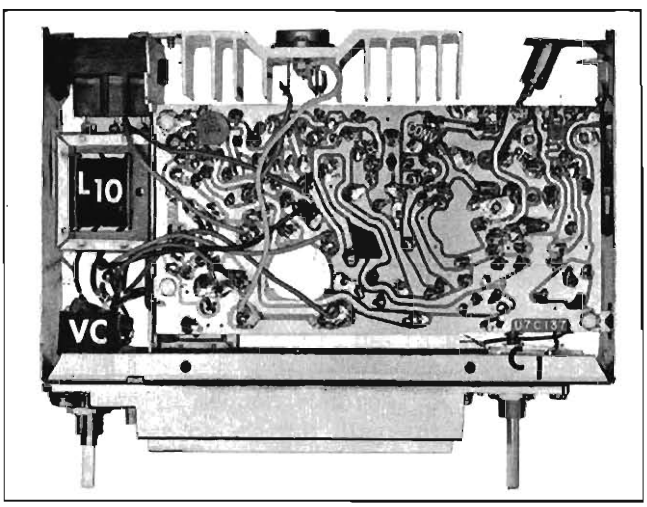


Figure 38 - CHEVY II - PARTS LAYOUT CIRCUIT BOARD VIEW - 985957 - RADIO

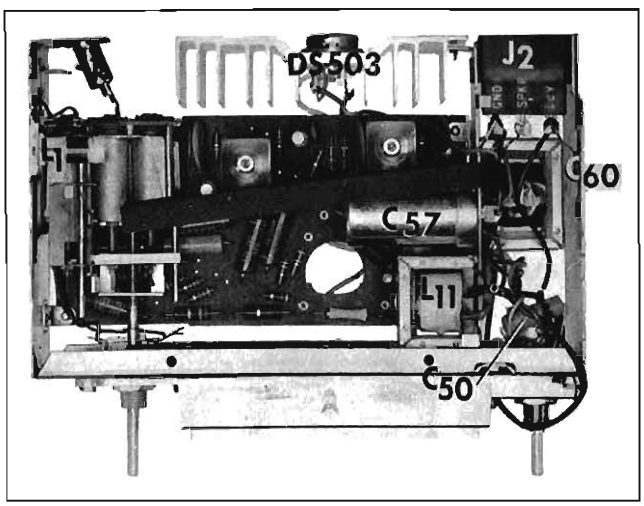


Figure 39 - CHEVY II PARTS LAYOUT TUNER VIEW - 985957 - RADIO

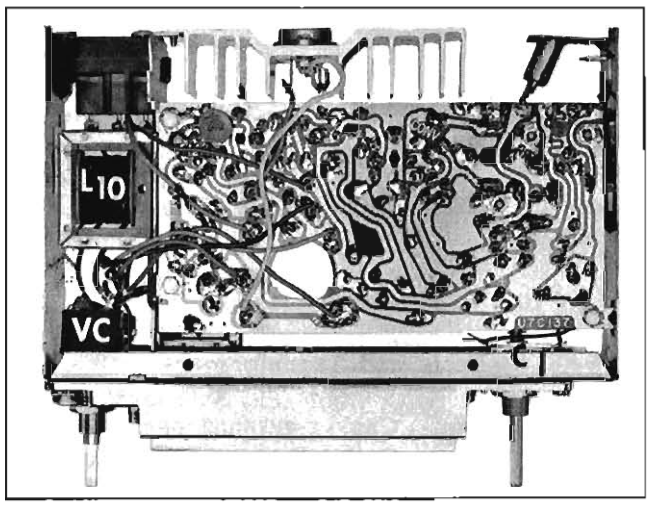


Figure 40 - CORVAIR - PARTS LAYOUT - CIRCUIT BOARD VIEW - 985831 - RADIO

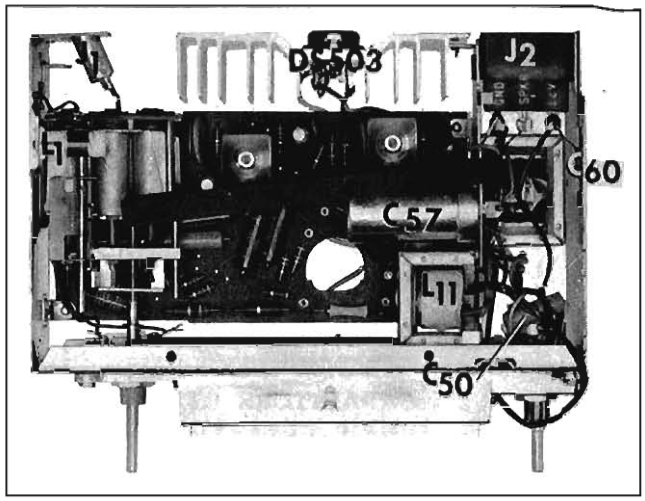


Figure 41 - CORVAIR - PARTS LAYOUT - TUNER VIEW - 985831 - RADIO

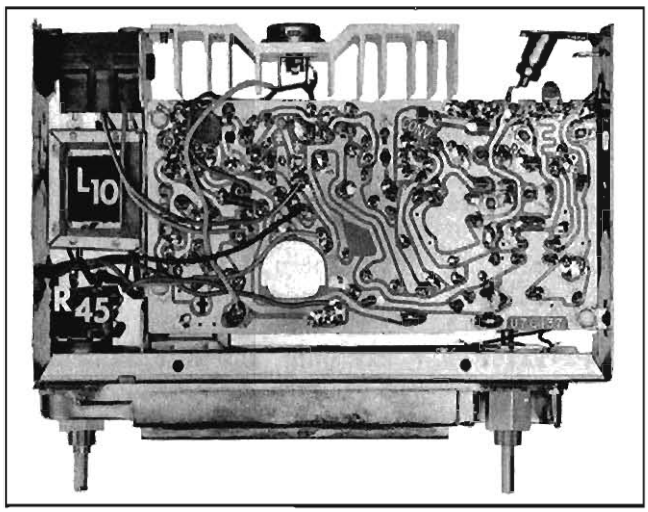


Figure 42 - CHEVROLET TRUCK - PARTS LAYOUT - CIRCUIT BOARD VIEW - 985672

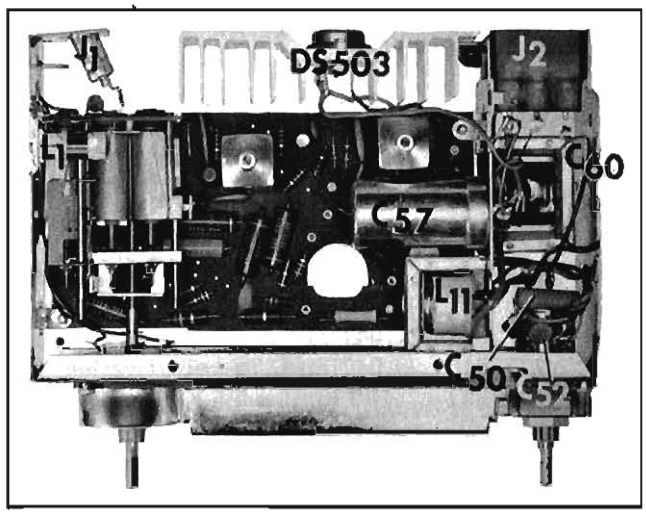


Figure 43 - CHEVROLET TRUCK - PARTS LAYOUT - TUNER VIEW - 985672

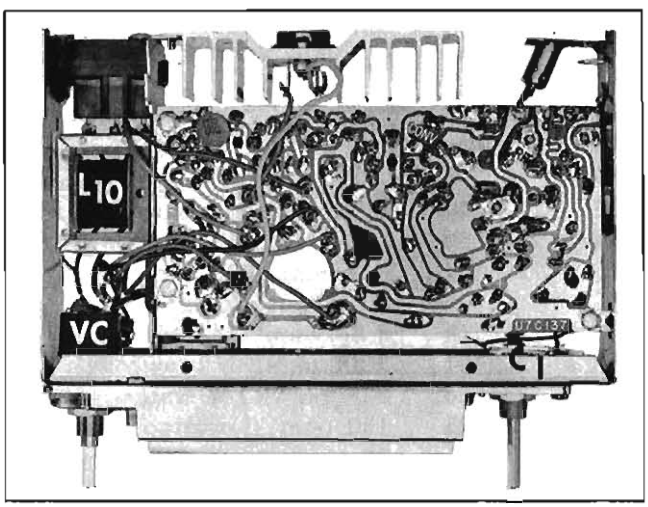


Figure 44 - CORVAIR SERIES 95 PARTS LAYOUT - CIRCUIT BOARD VIEW - 985815 - RADIO

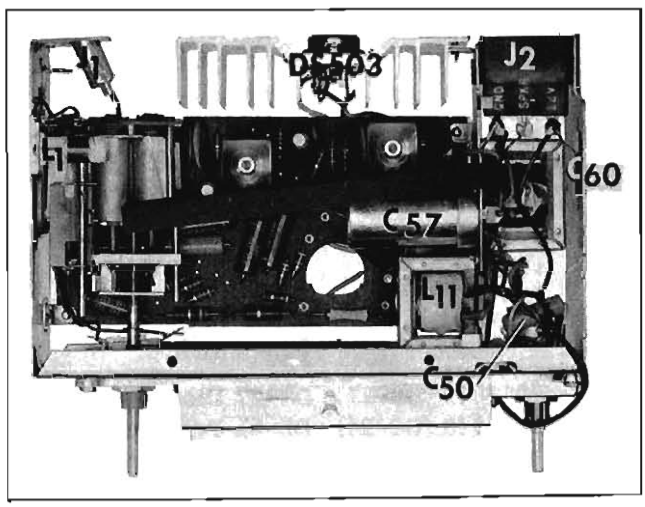


Figure 45 - CORVAIR SERIES 95 PARTS LAYOUT - TUNER VIEW - 985815 - RADIO

Illus. No.	Service Part No.	Description
R45A		Volume 20K ohm
R45B		Tone 100K ohm
R45C		Switch
R53	1214549	8.2K ohm, 1/2 watt
R54	1214550	22K ohm, 1/2 watt
R55	7286601	Rheostat, 600 ohms, Tone Control
R56	1214549	8.2K ohm, 1/2 watt
R57	1213481	3.3K ohm, 1/2 watt
R58	1214550	22K ohm, 1/2 watt
R60	1211005	150 ohm, 1 watt
R61	1216141	68 ohm, 1 watt
R62	1213489	47 ohm, 1/2 watt
R63	1213489	47 ohm, 1/2 watt
R64	7287480	Fuse Res., .68 ohm, 1 watt use exact replacement
R65	7241616	1.8K ohm, 1/2 watt
R66	7288083	5.6 ohm, 1/2 watt
R74	1214545	2.2K ohm, 1/2 watt
R75	1213252	10K ohm, 1/2 watt

Miscellaneous

	7282096	Dial Light Assembly
	7282640	Lead and plug assy., speaker to "A" connector
	1221812	Radiator pkg., transistor heat
	1221813	Insulator, heat radiator
	7286101	Speaker, 10 ohm, voice coil
	7282114	Connector assy., "A" lead & speakers
FL1	7287253	Component Pack .0022 mfd. - 1K ohm

Tuner Parts

	7281108	Socket, antenna connector
	7282078	Backplate, dial
	7282080	Backplate pointer
	7285869	Bushing, manual shaft
	7240121	Cap, dial light
	7282161	Cord, dial pointer drive
	7281896	Core bar
	7288147	Core, tuning - 3 used
	7282077	Dial, calibrated
	1222009	Drive shaft, manual
	1221529	Retaining ring pkg.
	1222046	Escutcheon
	7287957	Tuner complete - includes coils, housing & slugs
	7282086	Pointer assy. pkg
	7263593	Pulley, dial cord
	1221529	Retainer ring, core bar stop "E" - 10 in pkg.
	7283693	Spring, dial cord tension
	7282060	Spring, drive shaft retainer
	7283718	Spring, drive shaft anti-backlash "V" shape
	7281575	Link, drive nut to core bar
	1221815	Nut pkg., core bar drive-M

Installation Parts

	3778251	Adapter, static collector
	3838126	Brace, radio mtg.
	3771778	Bracket, ign. coil cap. adapter
	7286405	Bracket, radio mounting
	1947452	Capacitor, ignition coil
	1960957	Capacitor, voltage regulator & generator
	3838128	Cushion, speaker mtg. brkt.
		Fuse, 2.5 ampere, type AGC
	2965457	Fuse holder
	1991037	Knob, control - 2
	3793636	Knob, tone control
	3825878	Knob, dummy
	7279805	Nut, radio bushing - 2
	2974198	Strap, engine ground
	7276494	Static collector, front wheel - 2
	2978713	Strap, radio ground
	6279	Washer, wave, knob anti-rattle
	494786	Collector, static, front wheel - 2
	3843820	Bolt, special, speaker mtg.

PARTS LIST FOR 985815 CORVAIR SERIES 95 TRUCK

CAPACITORS

Illus. No.	Service Part No.	Description
C1	7281971	Antenna trimmer
C2		Part of printed circuit
C3	7272519	.047 mfd, 75 volt, tubular
C4	7287935	Trimmer, RF
C5	7288155	200 mmf, 100 volt, mica
C6	7287936	.0033 mfd, 75 volt, tubular
C7	7279896	30 mfd, 6 volt, electrolytic tubular
C8	7272519	.047 mfd, 75 volt, tubular
C9	7278751	.022 mfd, 75 volt, tubular
C10	7281933	Oscillator trimmer
C11	7283366	.0047 mfd, 100 volt, ceramic
C12	7283835	220 mmf, 100 volt, ceramic
C13	7272519	.047 mfd, 75 volt, tubular
C14	7272519	.047 mfd, 75 volt, tubular

Illus. No.	Service Part No.	Description
C15	7279821	180 mmf, ±5% N080, 100 volt ceramic
C16	7283364	.001 mfd, 100 volt, ceramic
C17		.001 mfd, 100 volt, ceramic- Part of FL-1
C18		.001 mfd, 100 volt, ceramic- Part of FL-1
C50	7286579	.033 mfd, 75 volt, tubular
C53	7283834	10 mfd, 12 volt, Electrolytic tubular
C54	7286539	100 mfd, 4 volt, dual electrolytic
C56	7288139	.15 mfd, 12 volt, ceramic
C57	7282272	Electrolytic, 3 section 400 mfd, 16 volts 850 mfd, 16 volts 4 mfd, 11.5 RMS
C60	7271564	Plate, spark

Diodes and Transistors

DS27	7279893 (DS-27)	DS-27 Diode - 3 used
DS51	#1221648 (DS-25)	DS-51 Transistor, RF Amplifier
DS52	#1221648 (DS-25)	DS-52 Transistor, Converter
DS53	#1221648 (DS-25)	DS-53 Transistor, IF Amplifier
DS46	1221962 (DS-46)	DS-46 Transistor, Audio Amplifier
DS46	1221962 (DS-46)	DS-46 Transistor, Audio Driver
DS503	1221625 (DS-503)	DS-503 Transistor, Power Amplifier

Use DS-25 for replacement

Coils and Transformers

L1	7281946	Choke, antenna series
L2, L3, L4	7287959	Coil & housing assy., includes antenna, RF, oscillator coils and tuner
L10	7282057	Choke, audio output
L11	1221623	Choke, "A" supply, input
T1	1221856	1st I.F.
T2	1221857	2nd I.F.

Resistors and Controls

R1	1213224	330 ohm, 1/2 watt
R4	1213486	470 ohm, 1/2 watt
R5	1213237	1.5K ohm, 1/2 watt
R6	1213272	150K ohm, 1/2 watt
R7	1214545	2.2K ohm, 1/2 watt
R8	1214550	22K ohm, 1/2 watt
R9	1214546	3.9K ohm, 1/2 watt
R10	1214547	4.7K ohm, 1/2 watt
R11	1213845	33K ohm, 1/2 watt
R12	1213845	33K ohm, 1/2 watt
R13	1213486	470 ohm, 1 watt
R14	1213483	6.8K ohm, 1/2 watt
R15		1K ohm, 1/2 watt - Part of FL-1
R16	1214559	470K ohm, 1/2 watt
R46		Control, volume, tone and switch
R46A		Volume 20K ohm
R46B		Tone 100K ohm
R46C		Switch
R53	1214549	8.2K ohm, 1/2 watt
R54	1214550	22K ohm, 1/2 watt
R55	7286601	Rheostat, 600 ohms, Tone Control
R56	1214549	8.2K ohm, 1/2 watt
R57	1213481	3.3K ohm, 1/2 watt
R58	1214550	22K ohm, 1/2 watt
R60	1211005	150 ohm, 1 watt
R61	1216141	68 ohm, 1 watt
R62	1213489	47 ohm, 1/2 watt
R63	1213489	47 ohm, 1/2 watt
R64	7287480	Fuse Res., .68 ohm, 1 watt- use exact replacement
R65	7241616	1.8K ohm, 1/2 watt
R66	7288083	5.6 ohm, 1/2 watt
R75	1213252	10K ohm, 1/2 watt

Miscellaneous

7282096	Dial light assy.
7282160	Speaker, 6 x 9, P.M., 10 ohm voice coil
7283540	Bracket, receiver mtg.
7282114	Connector assy., "A" lead & speaker
7282096	Dial Light Assy.
7282414	Lead & plug assy., speaker
1221812	Radiator pkg., transistor heat
1221813	Insulator, heat radiator
7281108	Socket, antenna connector
7287253	Component pack .0022 mfd. - 2-1K ohm

Tuner Parts

7281326	Backplate, dial
7282176	Backplate, pointer
7282144	Bushing, manual shaft
7240121	Cap, dial light
6040	Cord, dial pointer drive
7281896	Core bar

Illus. No.	Service Part No.	Description
	7288147	Core, tuning - 3 used
	7279493	Dial, calibrated
	1221818	Drive shaft, manual
	1221529	Retaining ring pkg.
	1222043	Escutcheon
	7287957	Tuner complete, includes coils, housing & slugs
	7281575	Link, drive nut to core bar
	1221815	Nut pkg., core bar drive-M
	7284556	Pointer assy.
	7263593	Pulley, dial cord
	1221529	Retainer ring, core bar stop "E"- 10 in pkg.
	7283903	Spring, dial cord tension
	7282060	Spring, drive shaft retainer
	7283718	Spring, drive shaft anti-backlash "V" shape
		Installation Parts
	3783238	Bracket, radio cover
	3826294	Bracket, radio mtg., R.H.
	1960957	Capacitor, generator
	1947452	Capacitor, ignition coil
	1960957	Capacitor, voltage regulator
	3826296	Cover assy., radio
	3783307	Cushion, speaker mtg. brkt.
	7283866	Fuse, 4 amp., type AGC
	3787340	Gasket, radio cover
	7277055	Knob, control 2
	3793635	Knob, dummy
	3793636	Knob, tone control
	7279805	Nut, radio bushing - 2
	3784324	Plate, speaker mtg.
	3823190	Spacer, radio receiver
	7279350	Spring, control knob
	7276494	Static collector, front wheel - 2
	2974198	Strap, radio ground - 2
	7257400	Washer, wave, knob anti-rattle - 2