For All Authorized Warranty Labor Distributors — Service Distributors and Service Stations

PHILCO AUTO RADIO

BULLETIN No. 116

July 1, 1937

INSTALLATION INSTRUCTIONS

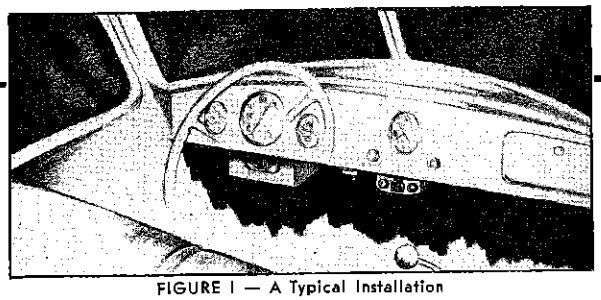


FIGURE 1 — A Typical Installation

MODEL 827

THE PHILCO AUTO RADIO MODEL 827 is Philco's newest in automobile radio. It is a highly developed superheterodyne, single-unit type Receiving Set, with all the modern features required in such a fine instrument.

The new Receiver is equipped with an adjustable antenna stage, which makes it possible to operate the Receiver at maximum efficiency on any type car antenna.

Receiver, speaker and full-wave Philco Vibrator are housed in a rugged, compact, fully shielded container which is designed for quick and easy installation on the dash of all automobiles, with two "Tee" bolts. The installation in most cars, can be easily made above the steering column. The loud speaker faces the front seat, so that the new improved Philco Electrodynamic Speaker delivers its full toned reproduction toward the occupants of the car with utmost fidelity. The speaker panel is easily removed so that tubes and vibrator are accessible for service.

Provision is made for using the Philco auxiliary extension speaker simply by connecting to a special socket on the Receiver.

The Receiver is equipped with a special two point, tone control. The tone control switch, which is separate from the control unit, can be easily attached in the most convenient location on the edge of the instrument board.

All tubes used are the latest Philco High Effiency Tubes, designed for automobile radio. Several of these tubes perform the functions formerly requiring two or three tubes, thereby effecting greater tube economy, reducing the number of tubes necessary for satisfactory operation, and also reducing the amount of current taken from the car battery to a minimum.

Philco's system of automatic volume control is used, giving smooth, elastic control which counteracts fading while driving along under varying conditions and prevents blasting of local stations.

This new, all-electric Receiver is equipped with improved interference filters and especially designed shielding to eliminate motor interference, making it possible to install it quickly and easily.

The new, beautiful "wide vision" standard control can be installed on the edge of the instrument board. This control unit is exceptionally attractive and is designed to blend harmoniously with the instrument boards of practically all cars.

The control and the Receiver can be transferred to any other car, easily and quickly, and without the need of any additional parts.

The new housing, attractive in appearance, is finished in dark brown with a light brown speaker grille and is further embellished with a two color name-plate.

There are only two external connections to make, one to the antenna, the other to the ammeter binding post.

Now, more than ever, **the new Philco Auto Radio is easy to install and is a pleasure to operate.**

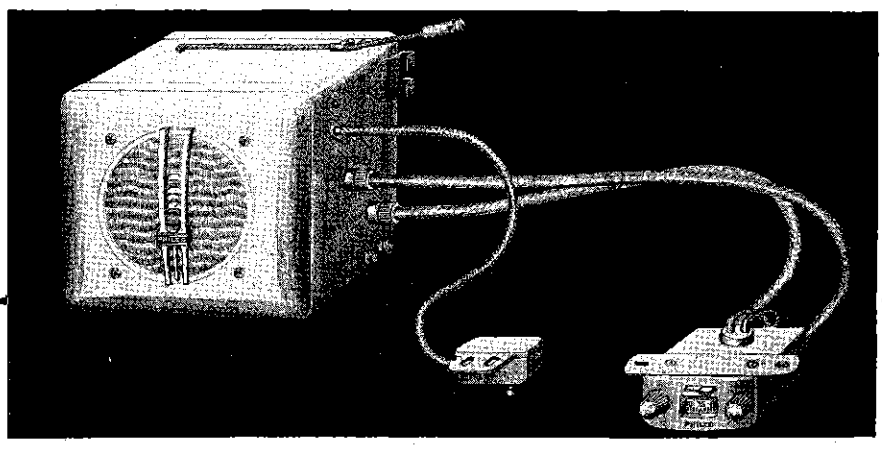
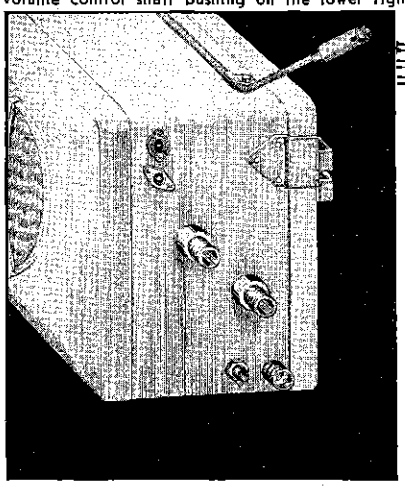


FIGURE 2
View showing the Receiving Set, the tone control switch and the control unit. The left-hand knob on the control is the volume control while the right-hand knob is the tuning control. The switch lever is in the center, above the dial opening.

FIGURE 3 — End View of the Receiving Set
The tuning control shaft bushing is on the upper left; the volume control shaft bushing on the lower right.



GENERAL INSTRUCTIONS

ANTENNA — In cars having an all metal top, the Philco special Under-Car Antenna, Part No. 45-2184, or the Philco Car Top Antenna, Part No. 45-2351, should be used. A complete lead-in assembly is furnished with each Philco Under-Car Antenna and each Car Top Antenna. Follow the instructions packed with the antenna.

No Antenna Lead is furnished with the Receiver. The Philco Antenna Lead Shield Assembly, Part No. 41-3191, should be used in cars having a built-in antenna. This lead can be obtained from Philco Auto Radio dealers.

In cars equipped with a built-in antenna, the lead-in is generally brought down one of the windshield pillars and coiled behind the cowl trim panel. In such cases, the antenna lead must be connected to the antenna lead-shield assembly. Ground the shield pigtail to the cowl panel under a convenient screw.

RECEIVING SET— The Set must be installed under the cowl on the dash. Be sure that in the location selected, there is ample foot room and that the Set does not interfere with the operation of the pedals and ventilators. The Set can usually be installed on the left side of the dash, above the steering column. The Set can also be installed on the right side of the dash, or in the center. The control couplings on the end of the Receiver housing must always be toward the center of the car.

A cardboard template is furnished so that the mounting bolt hole locations can be easily and accurately marked on the dash. The Set fastens to the dash with two "Tee" bolts. Drill two 7/16" holes and loosely assemble the "Tee" bolts. Install the Set on the dash, hooking the "Tee" bolts in the brackets on the Set. Tighten the Set securely in place.

When drilling the holes in the dash, care should be taken not to drill through any tubing or cables that are strapped to the dash in the motor compartment.

CONTROL UNIT — The standard control unit fastens to the bottom edge of the instrument board. Attach the mounting bracket to the top of the control unit with the two flat head screws. Drill two holes in the instrument board flange in the desired location and fasten the control mounting bracket securely by means of bolts and nuts.

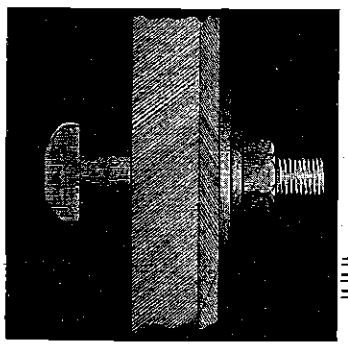


FIGURE 4 — Method of Assembling "Tee" Bolt

Seat the volume control shaft end in the proper bushing on the Receiver housing and fasten the shaft casing nut securely. Before coupling the tuning control shaft to the Receiver, turn the tuning control knob counter-clockwise to the mark below 55 on the scale. To couple the shaft, turn the knob counter-clockwise slowly until the shaft end is seated in the bushing and tighten the knurled casing nut securely with the fingers.

To adjust the setting of the control unit, after coupling the flexible shaft to the Receiver, turn the tuning control knob counter-clockwise as far as possible.

Check the accuracy of the dial calibration against a known local station. If it does not agree exactly, slip the dial on the friction clutch to the proper setting of the known local station using either your finger or the eraser on the end of a lead pencil.

In the 1937 Chevrolet cars, the special Chevrolet control fits behind the opening in the instrument board, just above the ash receptacle. First remove the ornamental plate covering this opening. Then place the face of the control against the back of the instrument board, with the ends of the shafts protruding through to the front. Next place the control bezel plate over the shafts and switch lever and against the front of the instrument board. Put the hex nuts on the threaded portion of the control shaft bushings and tighten securely. Put the knobs on the shafts.

Couple the flexible shafts in the same manner as the shafts on the standard control.

TONE CONTROL— The tone control unit fastens to the bottom edge of the instrument board. Using the holes in the mounting bracket as a guide, drill two 1/8" holes in the instrument board flange and then securely fasten the tone control to the instrument board with two No. 8 self-tapping screws. The switch must be on the bottom.

Connect the lead to the small socket on the end of the Receiver housing and fasten the flange to the Receiver housing with two self tapping screws.

"A" BATTERY CONNECTIONS— Place the fuse and fuse insulator in the metal fuse housing in the control "A" lead. Couple this to the short Receiver lead and then connect the other "A" lead to the ammeter stud on the rear of the instrument board.

ANTENNA CONNECTIONS— When the radio is installed in a car having a top screen antenna, a Philco Car-Top Antenna (Part No. 45-2351), a Philco Under-Car Antenna (Part No. 45-2184), a spare wheel antenna or an antenna having a similarly low capacitance (50 mmfd. to 450 mmfd.) — **place the connector plug and insulator in the antenna lead connector and then plug the antenna lead into the antenna lead connector.**

When the radio is installed in a car having a metal insert top antenna, insulated door antenna, insulated trunk cover or an antenna having a similarly high capacitance (450 mmfd. to 2500 mmfd.) — **place the condenser connector in the antenna lead connector and then plug the antenna lead into the antenna lead connector.**

ANTENNA COMPENSATOR ADJUSTMENT— Turn on the radio and tune in a **weak broadcast signal at approximately 60** on the control scale. The volume control should be turned well up. With

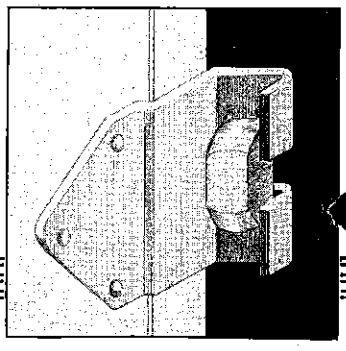


FIGURE 5 — Method of Securing Set to Dash

a small screw driver, adjust the antenna compensating condenser for the maximum signal.

ACCESSORY SPEAKER — An Accessory Speaker, Philco Part No. 45-2405, can be operated from the Receiver in conjunction with the regular speaker. Install the speaker on the header-bar or in the rear compartment, connecting the speaker plug in the tone control socket. Instructions for installing the Accessory Speaker are included in the speaker carton.

MOTOR INTERFERENCE SUPPRESSION—Remove the coil-to-distributor high tension lead from the distributor. Cut the lead two inches from the end and screw the distributor resistor on the coil lead. Then screw on the short length and plug the cable in the distributor cap. Cars equipped with two ignition coils require two distributor resistors. Extra resistors can be obtained from the nearest Philco Auto Radio dealer or distributor.

Two interference condensers are furnished — one must be connected to the generator side of the cut-out, the other to the battery side of the primary of the ignition coil or to the ignition switch. The condenser bracket must be fastened securely to a grounded metal part of the car. The condenser on the generator usually can be fastened to the generator housing under the same screw that holds the cut-out, while the coil condenser can usually be fastened under the coil mounting bolts.

In some cases it may be necessary to connect an additional condenser to the ammeter or to the dome light lead at the corner post. On some cars, a condenser can be used to advantage on the electric oil gauge or on the gas gauge. Connect the condenser to the terminal of the gauge and bolt the condenser securely to the frame or some other grounded part of the car.

Interference from electric clocks can be eliminated by connecting an interference condenser to the ammeter terminal.

Thirty inches of 1/4" copper braid are furnished for use as ground straps as required.

In some particularly stubborn cases, bonding the steering column to the dash with a short lead will be effective. Clean the paint from the steering column at the dash where it enters the motor compartment and solder on a short piece of braid, grounding this to the dash.

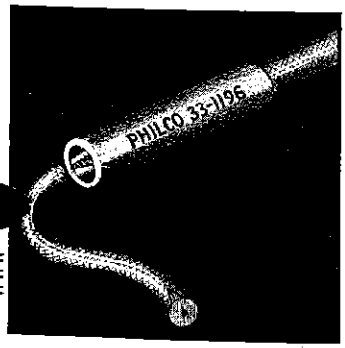
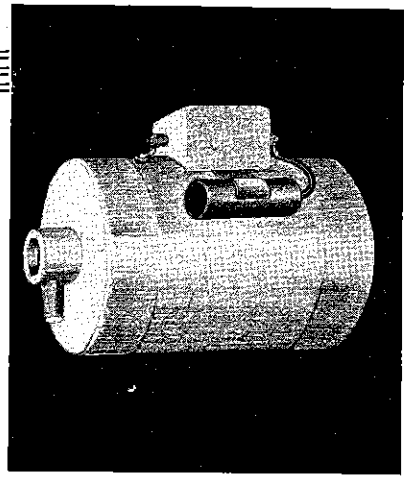


FIGURE 6 — Distributor Resistor

FIGURE 7 — Method of Mounting Generator Interference Condenser



In other cases it may be necessary to ground the tubing and rods coming thru the dash in order to reduce the interference. Clean them with emery cloth and spot solder the braid, fastening the end under a convenient screw. When an under-car antenna is used, it may be necessary to ground the exhaust pipe to the frame of the car with a piece of copper braid. The ground connection should be made ahead of the dash.

There may be some interference caused by an excessive gap between the distributor rotor and the high-tension contacts. This can be overcome by lengthening the contact end of the rotor. Place the metal end of the rotor on a steel block and peen or hammer it with a small machinist's hammer. Dress the end with a file so that it retains its original shape. The rotor should not brush or wipe the contacts but should just clear them.

If the installation has been made carefully and the usual precautions observed, it should not be necessary to use spark plug resistors. In the event these operations do not reduce ignition distrurbances to a satisfactory level, spark plug resistors should be installed. These can be obtained from the nearest Philco Auto Radio dealer or distributor.

OPERATION

The radio switch is in the center of the standard control above the dial opening. The "off" position is to the right, the "on" position to the left. The left-hand knob controls the volume, the right-hand knob controls the tuning.

Turn the radio "on." Allow the tubes to heat up, then adjust the volume control and tune in the various programs.

The numbers on the dial are channel numbers which, with the addition of "0" to the number correspond to the frequency in kilocycles. Adjust the volume to a suitable level and recheck the tuning. The Receiver must be tuned so that the maximum signal is obtained. Since the Receiver is extremely selective it is of the utmost importance that the Receiver be tuned right on the station. Careless tuning off to one side even though the signal is still heard, results in very poor tone quality and very mushy reception.

Except on very weak signals, the automatic volume control maintains the same volume level while driving along without requiring continual manipulation of the manual volume control, cuts out external interference, counteracts fading and prevents blasting of local stations while tuning. It is impossible, however, to maintain satisfactory reception while driving under bridges or in places which are totally shielded, known as dead spots.

The tone control switch, located on the lower edge of the instrument board should be set for the tone most pleasing for each particular program. It is helpful when in the vicnity of power lines, street car lines, or in other noisy locations, to set the switch for the deep (bass) position since this modifies the intensity of the interference.

MAINTENANCE AND SERVICE

The Receiver is fully covered by the Standard Warranty (see below). Read it carefully. Should this Receiver or the Receiver installation ever require attention, go immediately to your dealer or to the service station that made the installation for efficient service.

REPLACEMENT TUBES — Use only PHILCO high-Efficiency Tubes for replacements.

REPLACEMENT PARTS — Use only genuine PHILCO replacement parts. Don't jeopardise the performance of your Receiver by using inferior parts.

DO NOT ATTEMPT TO ADJUST THE VIBRATOR — If service is ever required, go to your dealer or to the nearest authorized Philco Auto Radio Service Station.

STANDARD WARRANTY

We warrant each new Philco Radio Receiver and Speaker to be free from defects in material and workmanship under normal use and service, our obligation under this warranty being limited to making good at our depot any part or parts thereof which shall, within ninety (90) days after delivery of such Receiver to the original retail purchaser, be returned to our depot with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied, and of all other obligations or liabilities on our part, and we neither assume nor authorize any representative or other person to assume for us any other liability in connection with the sale of Receivers or Speakers.

This warranty shall not apply to any Receiver or Speaker which shall have been repaired or altered other than by us in any way so as, in our judgment, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident, nor which has had the serial number altered, effaced or removed. Neither shall this warranty apply to any Receiver or Speaker which has been connected otherwise than in accordance with the instructions furnished by us.

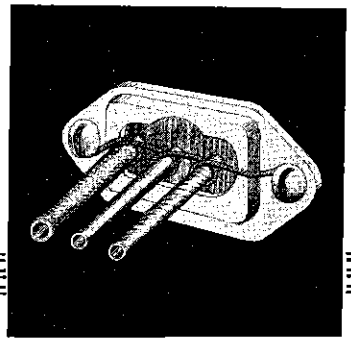
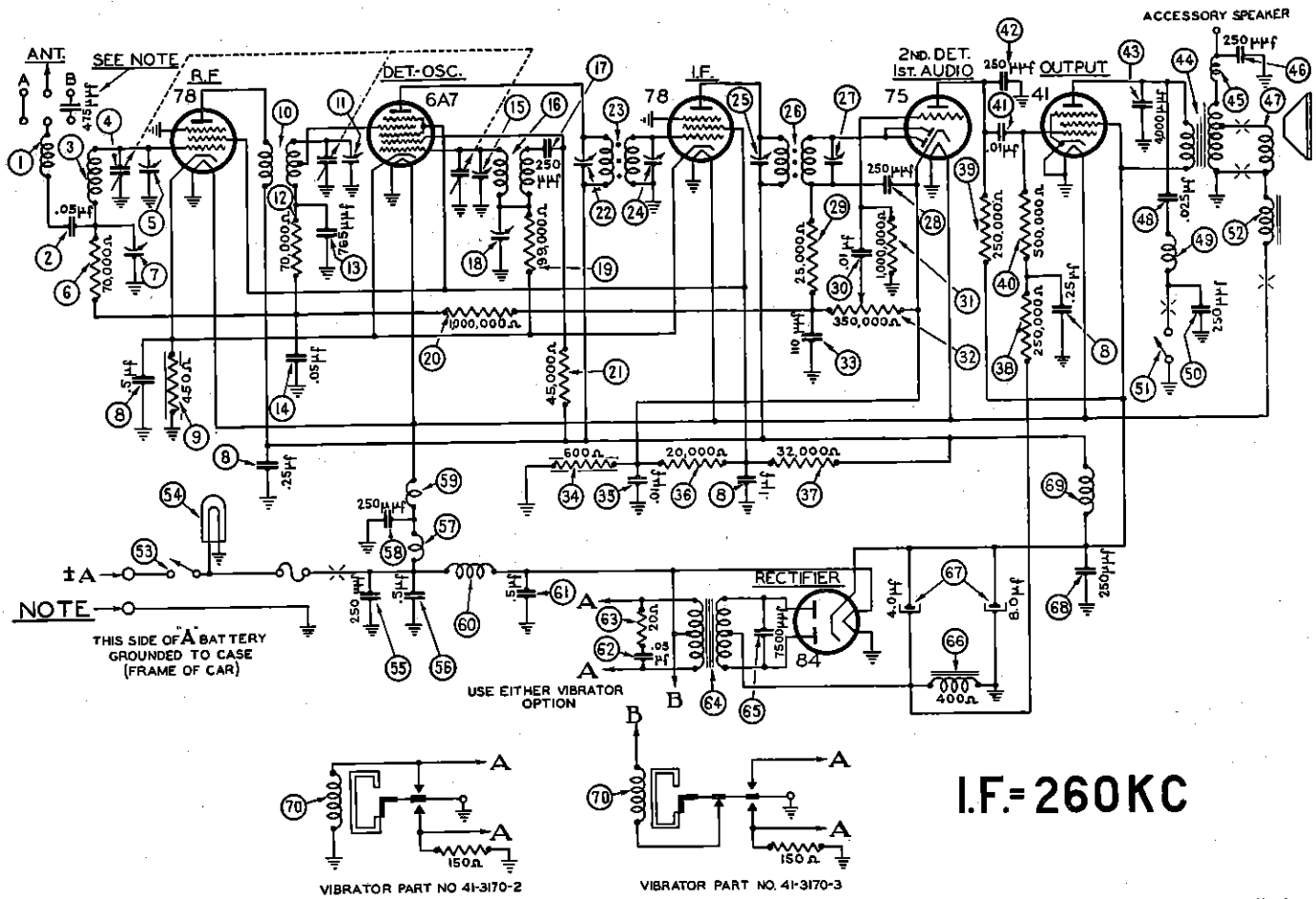


FIGURE 8 — Proper Method of Bonding Tubing, etc. at Dash



VIBRATOR PART NO 41-3170-2

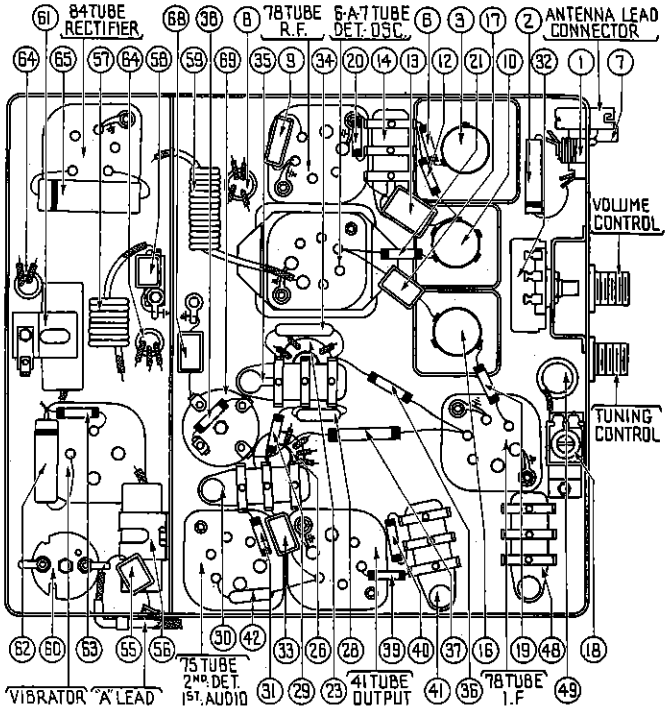
VIBRATOR PART NO. 41-3170-3

NOTE: When the Receiver is installed in a car having a top antenna, under-car antenna, spare wheel antenna or antenna having a similarly low relative capacitance (50 mmf. to 450 mmf.) use connector plug in "A".

When the Receiver is installed in a car having a metal insert top antenna, insulated door antenna, insulated trunk cover antenna or antenna having similarly high relative capacitance (450 mmf. to 2500 mmf.) use condenser plug in "B".

MODEL 827 PARTS LIST

No.	Description	Part No.
1	Antenna Choke	33-8651
2	Condenser (.05 mfd.)	30-4444
3	Antenna Transformer	32-2516
4	Tuning Condenser	31-1930
5	First padder (on tun. cond.)	
6	Resistor (70,000 ohms)	33-370344
7	Antenna Compensating Condenser	31-6082
8	Condenser (.1-.25-.25-.5 mfd.)	30-4511
9	Resistor (450 ohms)	33-1218
10	R. F. Transformer	32-2307
11	Second Padder (on tun. cond.)	
12	Resistor (70,000 ohms)	33-370344
13	Condenser (765 mmfd.)	30-1069
14	Condenser (.05 mfd.)	3615-OSG
15	Third Padder (on tun. cond.	
16	Oscillator Transformer	32-2308
17	Condenser (250 mmfd.)	30-1032
18	Low frequency padder	31-6102
19	Resistor (99,000 ohms)	33-399344
20	Resistor (1,000,000 ohms)	33-510344
21	Resistor (45,000 ohms)	33-345344
22	Padder (Pri. 1st I. F. trans.)	
23	First I. F. Transformer	32-2026
24	Padder (Sec. 1st I. F. trans.)	
25	Padder (Pri. 2nd I. F. trans.)	
26	Second I. F. Transformer	32-2027
27	Padder (Sec. 2nd I. F. trans.)	
28	Condenser (250 mmfd.)	30-1032
29	Resistor (25,000 ohms)	33-325344
30	Condenser (.01 mfd.)	3903-OSU
31	Resistor (1,000,000 ohms)	33-510344
32	Volume Control (350,000 ohms)	33-5148
33	Condenser (110 mmfd.)	30-1031
34	Resistor (600 ohms)	33-1212
35	Condenser (.01 mfd.)	3903-OSG
36	Resistor (20,000 ohms)	33-320344
37	Resistor (32,000 ohms)	33-332434
38	Resistor (250,000 ohms)	33-424344
39	Resistor (250,000 ohms)	33-424344
40	Resistor (500,000 ohms)	33-449344
41	Condenser (.01 mfd.)	3903-OSU
42	Condenser (250 mmfd.)	30-1032
43	Condenser (4000 mmfd.)	30-4185
44	Output Transformer	32-7815
45	Choke	32-1374
46	Condenser (250 mmfd.)	30-1032
47	Cone and Voice Coil	36-3586
48	Condenser (.025 mfd.)	7653-OSU
49	Choke	32-1464
50	Condenser (250 mmfd.)	30-1074
51	Tone Control Switch	42-1225
52	Field Coil Assembly	36-3597
	Complete Speaker (CD)	36-1267
53	On and Off Switch	42-1318
54	Pilot Lamp	34-2040
55	Condenser (250 mmfd.)	30-1032
56	Condenser (.5 mfd.)	30-4015
57	"A" Choke	32-1604
58	Condenser (250 mmfd.)	30-1032
59	Filament Choke	32-2535
60	Vibrator Choke	32-2089
61	Condenser (.5 mfd.)	30-4015
62	Condenser (.05 mfd.)	30-4444
63	Resistor (20 ohms)	33-020344
64	Power Transformer	32-7550
65	Condenser (7,500 mmfd.)	30-4420
66	Filter Choke	32-7545
67	Filter Condenser (4-8 mfd.)	30-2150
68	Condenser (250 mmfd.)	30-1032
69	"B" Choke	32-1281
70	Vibrator (OPTIONAL)	41-3170-2 41-3170-3
	Four-prong Socket	27-6044
	Five-prong Socket	27-6035
	Six-prong Socket	27-6036
	Seven-prong Socket	27-6037
	Tuning and Volume Knob	27-4521
	On and Off knob	27-4525
	Pilot Lamp Assembly	38-7734
	Scale Assembly	42-5714
	Tuning and Volume Shaft	28-8740
	Tone Control Shaft	L-2767
	Control Assembly	42-5713
	Distributor Resistor	33-1196
	Antenna Condenser	30-4412
	Interference Condenser	30-4007
	Antenna Connector	28-6423
	Insulator	27-8199
	Fuse	7227



No.	Description	Part No.	No.	Description	Part No.
	Fuse Insulator	27-7729		Nut	W-518
	Tee Bolt	28-6161		Receiver Housing	38-8571

TRANSITONE AUTOMOBILE RADIO CORP. PHILA., PA.

MODEL 827 — INSTALLATION REGISTRATION

Receiver Serial No._____ Make and Year of Car_____

Installed by_____ Date_____

Owner's Name_____ Owner's Address_____

KEEP THIS INSTALLATION RECORD. IT IS IMPORTANT IN CASE YOU EVER REQUIRE SERVICE.

Printed in U.S.A.

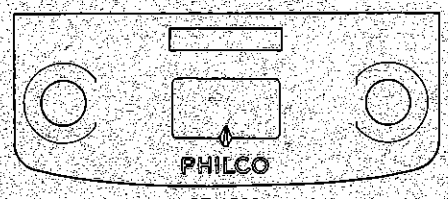
For All Authorized Warranty Labor Distributors — Service Distributors and Service Stations

PHILCO AUTO RADIO

BULLETIN No. 143

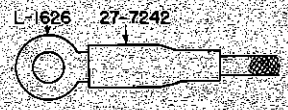
August 20, 1937

STANDARD CONTROL MODELS 826 - 827 - 827K - 828 - 828K

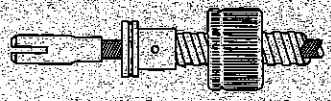


27-4522

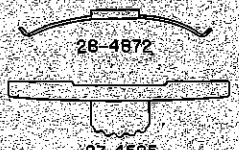
38-7077 (COMPLETE)



38-7078 (COMPLETE)



28-8740 FLEXIBLE SHAFT (COMPLETE)



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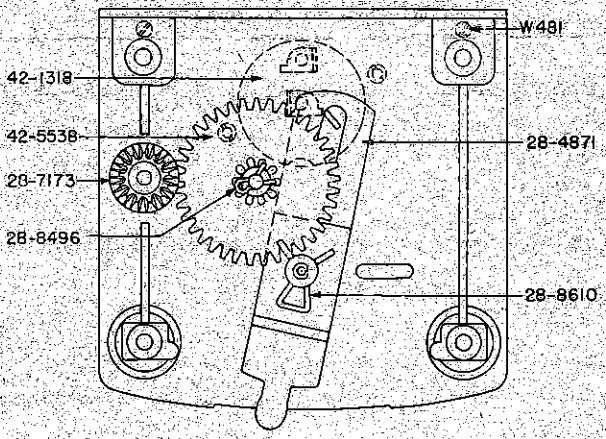
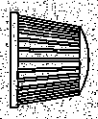
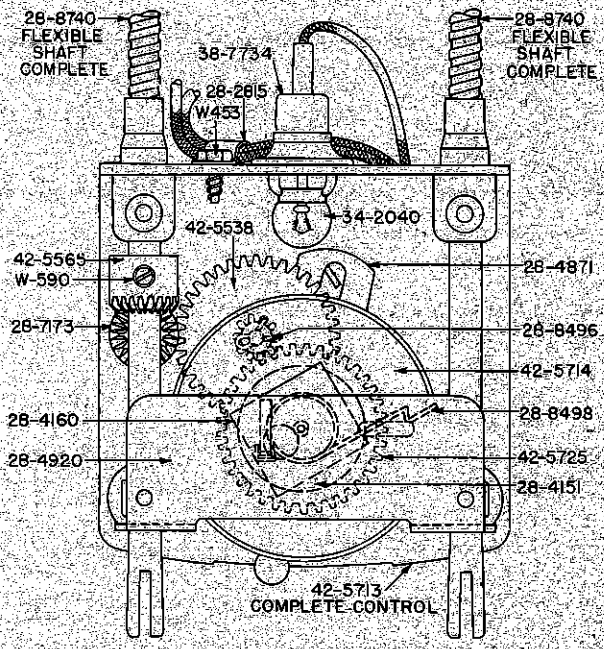
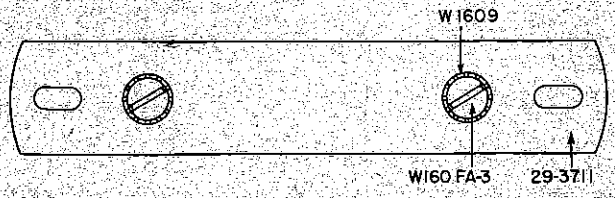


W1755 FA-4



27-4521





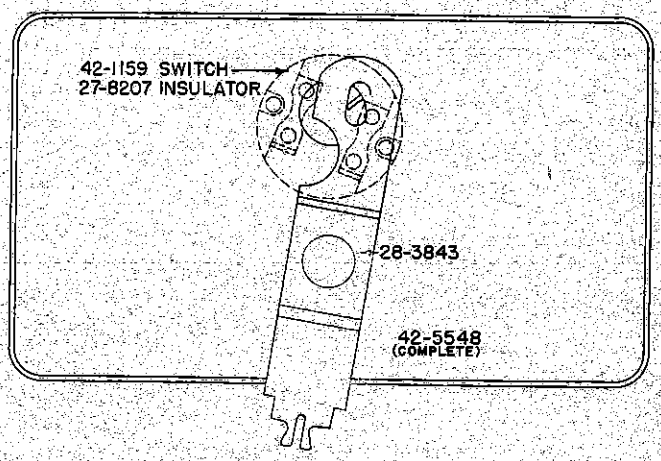
PARTS LIST AND PRICES

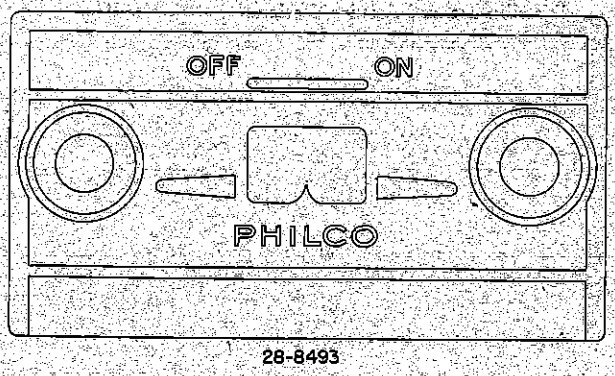
(Prices Subject to Change Without Notice)

PART NUMBER	DESCRIPTION	LIST PRICE
L-1626	Lug	$ .01
W-160FA3	Screw (Brkt. mtg.) per 100	.30
W-453	Screw per 100	1.80
W-481	Screw per 100	2.00
W-590	Screw per 100	2.00
W-684FA3	Nut per 100	1.25
W-1433	Washer per 100	.50
W-1609	Lockwasher per 100	.50
W-1755FA4	Screw (Cover mtg.) per 100	.30
4436	Washer per 100	1.50
27-4288	Knob	.15
27-4314	Knob	.04
27-4521	Knob	.10
27-4522	Cover	.75
27-4525	Switch Lever (Ind.)	.10
27-5186	Light Shield	.01
27-7133	Ferrule	.01
27-7242	Insulator per 100	.10
27-8205	Shield per 100	.50
28-1269	Fuse Housing	.01
28-2650	Washer per 100	.45
28-2815	Clamp	.01
28-3698	Knob Base	.04
28-4151	Friction Washer	.02
28-4160	Friction Spring	.01
28-4871	Switch Lever	*
28-4872	Switch Knob Retaining Spring	.02
28-4893	Bezel Plate	.10
28-4920	Shaft Bearing Plate	*
28-7173	Miter Gear	.10
28-8493	Flexible Shaft	1.15
28-8496	Spring	.05
28-8498	Anti-back Lash Spring	.10
28-8610	Spring	.03
28-8653	Spring	.03
28-8740	Flexible Shaft	1.00
29-3711	Bracket	.03
29-8009	Spring per 100	.50
34-2040	Pilot Lamp	.07
38-7077	Fuse Lead Assembly	.15
38-7078	Ammeter Lead Assembly	.15
38-7734	Pilot Lamp Assembly	.35
38-8265	Pilot Lamp Assembly	.20
42-1318	On & Off Switch	.40
42-5538	Intermediate Gear Assembly	.15
42-5548	Cover Assembly	.65
42-5565	Miter Gear Assembly	.15
42-5713	Standard Control	6.75
42-5714	Scale Assembly	.35
42-5725	Drum Drive Gear Assembly	*
42-5726	Drum Gear and Shaft Assembly	*
42-5730	Chevrolet Control	6.00
42-5731	Scale Assembly	.30

*Prices not available at this time.

CHEVROLET CONTROL MODELS 826 - 827 - 827K - 828 - 828K





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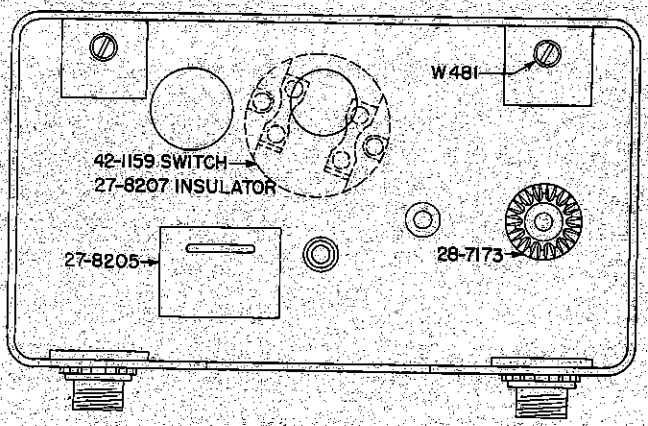
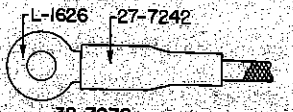
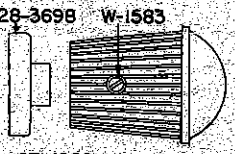


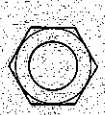


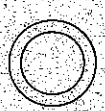
38-7078 COMPLETE



27-4288 COMPLETE


27-8205


W-684A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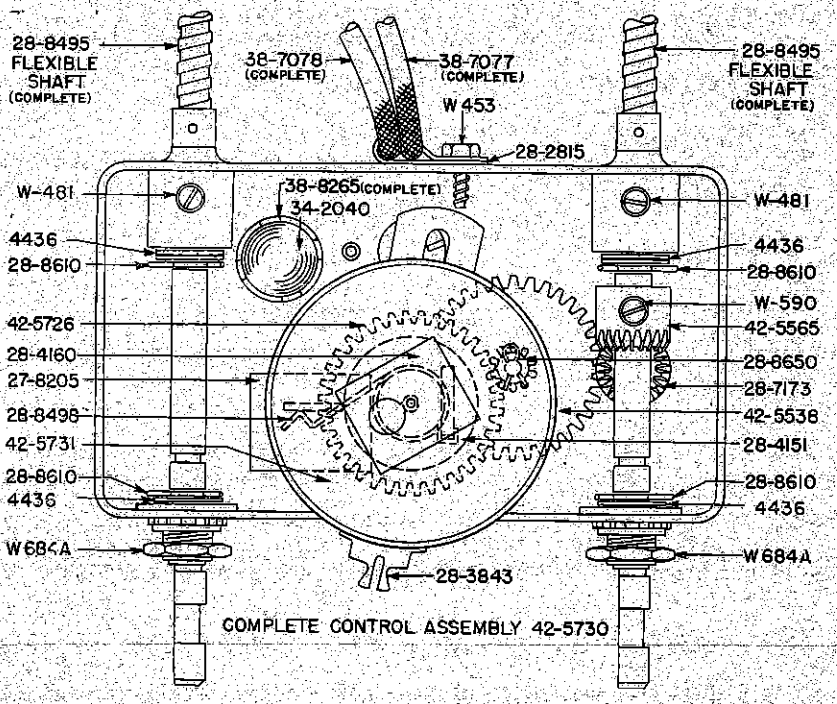
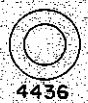


COMPLETE CONTROL ASSEMBLY 42-5730


4436

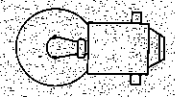

27-5186


27-4314


28-8658


W-1433


28-8610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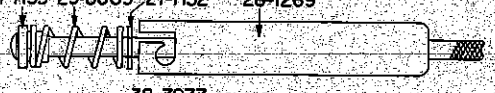

38-7077 COMPLETE

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