Model 809 PHILCO AUTO RADIO

OPERATING and INSTALLATION INSTRUCTIONS

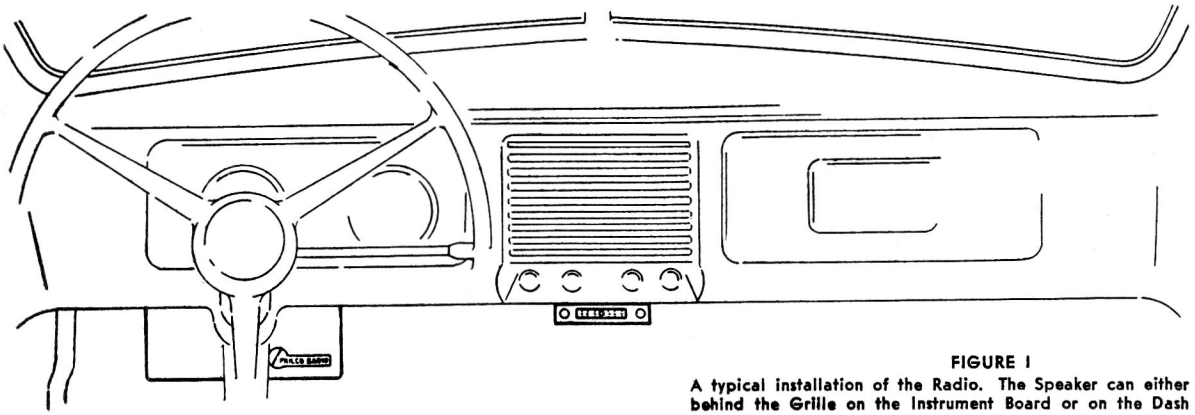

FIGURE 1
A typical installation of the Radio. The Speaker can either be installed behind the Grille on the Instrument Board or on the Dash of the Car.

SPECIAL FEATURES

The Model 809—new and exclusive . . . improved in design . . . All electric superheterodyne auto radio . . . Six loktal tubes especially designed for auto radio service . . .Three bands, one band for the Standard broadcasts and two bands for day and night short wave . . . "Special band" circuit makes short wave tuning easier . . . Exceptional sensitivity . . . Automatic Volume Control . . . Bass compensation . . . Separate large size electro-dynamic speaker . . . Choice of speaker mounting, either on the dash of the car or behind the grille on the instrument board . . . Two point Tone control . . . Completely shielded and filtered against car ignition interference . . . can be easily and conveniently installed in practically all cars . . . a new control, easy reading and quick tuning. The control fits right under the edge of the instrument board, in the most convenient location.

OPERATION

TO TURN THE RADIO "ON"—Turn the left hand knob clockwise. The first range of motion operates the "On-Off" switch. From that point, it is the manual volume control.

TO TUNE A STANDARD BROADCAST STATION—Push the right hand knob all the way in and release it. Repeat this until the black dot appears in the band indicator window, in the center of the control. Then turn the right hand knob to tune in the desired station. The dial is marked to indicate the frequency of the broadcast station. The radio must be tuned accurately for the best reception.

TO TUNE IN SHORT WAVE STATIONS—To tune in a short wave station between 5.9 and 10.0 megacycles, simply push the right hand knob in, and release it. Repeat this until the red dot appears in the band indicator window. Then tune in the desired station with the right hand knob. To tune a short wave station between 11.7 and 11.9 megacycles, push the knob in again until the white dot appears in the band indicator window and tune in the conventional manner.

TO ADJUST THE VOLUME—After the desired program has been tuned in, adjust the volume to a suitable level. Turn the left hand knob clockwise to increase the volume, and counter-clockwise to decrease the volume.

TONE CONTROL—The tone control is operated by pushing in the left hand knob. There are two positions—"BRIGHT" for speech and music, and "DEEP" for use in noisy locations or in case a deeper tone is desired for musical programs.

TO TURN THE RADIO "OFF"—Turn the left hand knob, counter-clockwise until a slight click is heard and the dial light goes out.

INSTALLATION

The Model 809 is designed to operate at maximum efficiency when used with the new Philco Auto Radio Shortwave Aerials. Install the aerial before proceeding with the installation of the radio. The aerial lead and complete installation instructions are packed with each aerial.

RECEIVER INSTALLATION — The Receiver must be installed under the cowl, on the dash. Be sure that in the location selected, there is ample foot room and that it does not interfere with the operation of the pedals and ventilators. The Receiver can usually be installed on the left side of the dash, above the steering column. The Receiver can also be installed on the right side of the dash. 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 Receiver fastens to the dash with two hook bolts. Drill two 7/16" holes and loosely assemble the hook bolts. Install the Receiver on the dash, placing the ends of the hook bolts in the holes provided in the sides of the Receiver. Tighten the Receiver securely in place (see Figure 2).

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 fastens to the bottom edge of the instrument board flange. Fasten the control mounting brackets to the sides of the control with the screws and washers supplied. Using the control as a template, locate the holes for the control mounting screws in the instrument board flange and drill two 3/16" holes. Fasten the control securely in place.

FLEXIBLE SHAFTS—Fasten the two clamps supplied with the radio over the "A" leads, tone control lead and flexible shafts. These clamps must be placed near the center of the shafts.

Arrange the shafts so that they are not bent or kinked. Turn the tuning control knob until the indicator on the control is at the low end of the dial. Seat the tuning and volume control shaft ends in their respective shaft bushings on the end of the Receiver housing and snap the shaft casings in place. Push the right hand knob all the way in and release it. Repeat this until the white dot appears in the dial band window in the center of the control. Loosen the screw over the push-button shaft opening approximately ⅜". Insert the automatic

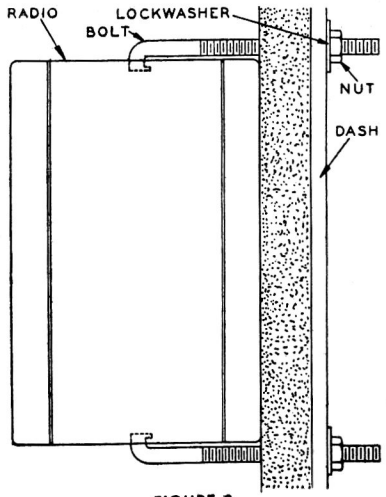

FIGURE 2.

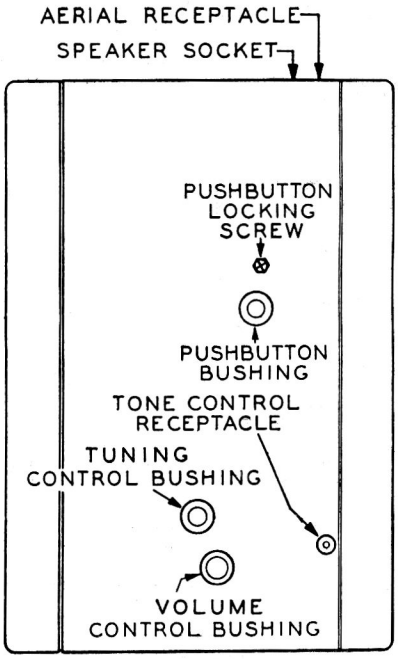

FIGURE 3

push-button shaft in the bushing on the end of the Receiver housing and with the end of a screw driver, push the brass coupling into the bushing as far as it will go. Then tighten the screw. Tightening this screw unlocks the wafer switch so that the control can be operated to change bands. **Be sure the flexible shafts are not moved after being placed in position.** If for any reason, the shafts are moved after the installation, and the control and wafer switch are not synchronized properly, loosen the screw on the end of the housing which is over the push-button shaft and push the right hand knob on the

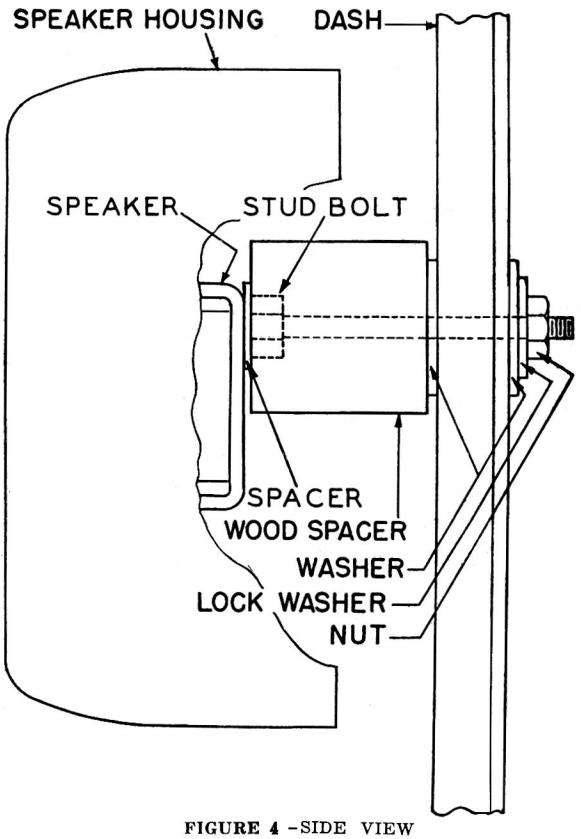

FIGURE 4 -SIDE VIEW

control until the locking spring on the wafer switch snaps into position. A click will be heard when this is done. Then remove the flexible push-button shaft from the Receiver housing and push the right hand knob on the control until the white dot appears in the station band window. Insert the flexible shaft again and tighten the screw.

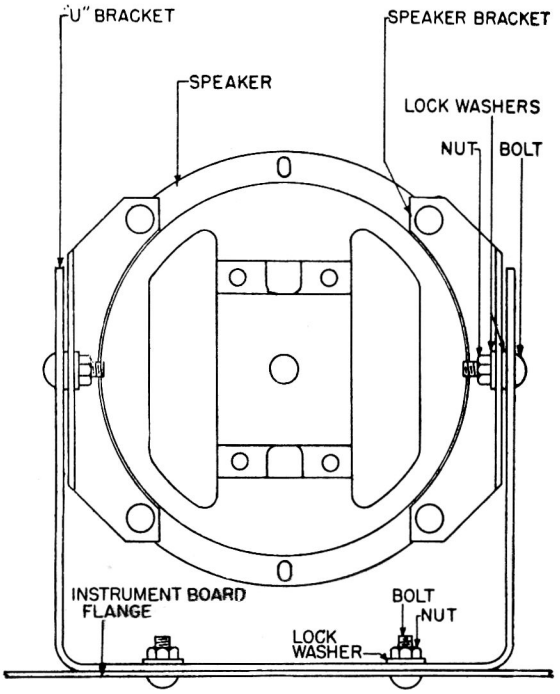

FIGURE 5—BACK VIEW

"A" LEAD CONNECTIONS—Couple the long "A" lead from the control to the "A" lead on the left end of the Receiver. Connect the remaining "A" lead on the control to the ammeter stud on the rear of the instrument board.

TONE CONTROL — Insert the tone control lead from the control, in the tone control receptacle on the end of the Receiver.

DASH SPEAKER — (Kit Part No. 91-0139). Install the speaker on the dash in a convenient location. Locate and drill a ⅜" hole in the dash. Screw the short end of the mounting stud into the back of the speaker. Place the wood spacer block on the stud and then the washer. Bolt the speaker securely to the dash with the washer, lockwasher and nut (see Figure 4). Connect the speaker cable plug in the speaker socket on top of the Receiver housing.

INSTRUMENT BOARD SPEAKER — (Kit Part No. 91-0140). Using the "U" bracket as a template, locate and drill two ¼" holes in the flange of the instrument board, so that when the speaker is assembled to the bracket, it will line up behind the speaker opening in the grille. Loosely assemble the "U" brackets and the adjustable side brackets. Bolt the speaker to the side brackets, placing the screen with the rubber gasket attached, against the face of the speaker and bend the four ears of the screen over the edge of the speaker. Cut the carboard baffle to size and place it against the inside of the speaker grille. Hold the speaker and bracket in position, behind the grille, and adjust the side brackets so that the speaker comes directly behind the speaker opening. Use enough cardboard spacers under the "U" bracket to clear any obstruction on the inside flange of the instrument board. Then bolt the "U" bracket in place on the instrument board flange (see Figures 4 and 5). Fasten the side brackets securely in position. Complete instructions are packed with each speaker kit.

Connect the speaker cable plug in the speaker socket on top of the Receiver.

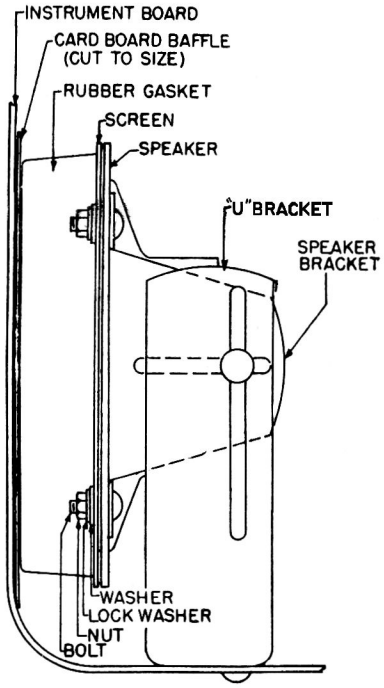

FIGURE 6—SIDE VIEW

AERIAL CONNECTION — Connect the aerial lead in the aerial receptacle on the top of the Receiver housing.

TUNING AND VOLUME CONTROL ADJUSTMENTS—To adjust the setting of the tuning control, turn the tuning knob first one way as far as it will go, and then the other way.

To adjust the Volume Control, turn the volume control knob clockwise as far as it will go.

MOTOR INTERFERENCE SUPPRESSION

Disconnect the leads from the spark plugs. Cut off the terminal end of the lead and screw the small elbow type resistor on the lead. The resistor can then be snapped in the terminal of the spark plug. To avoid confusion when the leads cannot be identified easily, install the resistor and make all connections in one lead at a time. Cars equipped with more than six cylinders require extra resistors.

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.

One large and three small interference condensers are furnished — the large condenser 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.

On cars equipped with a voltage regulator in place of the generator cut-out, it will be necessary to use the

condenser formerly connected to the generator on the voltage regulator. This should be connected to the battery terminal of the voltage regulator and mounted under one of the mounting screws holding the voltage regulator in place.

FIGURE 7
Screw the Distributor Resistor on the Coil Lead

On some cars it is necessary to connect one small condenser to either the ammeter or ignition switch. The condenser bracket can be fastened at a convenient location on the flange of the instrument board.

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.

Interference from electric windshield wipers can be eliminated by connecting the condenser lead to the motor and the bracket to the windshield wiper frame.

In some particularly stubborn cases of motor interference, 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.

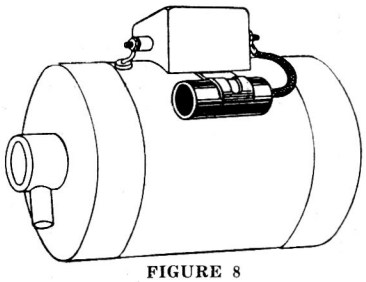

FIGURE 8
Connect the Interference Condenser to the Generator Cut-Out

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.

Four ground screws are furnished for grounding the hood to the cowl. One screw must be used at the edge of the hood nearest the aerial. If the car has side panels, one screw must be used near the bottom of the left side panel. If the car has a one piece hood use three screws, one on each side of the cowl and one in the middle. If the car has a two piece hood, the grounding screws must be used on the same side as the aerial. When installing the hood ground screws, remove a hood lacing screw and apply the ground screw using the hole from which the screw was just removed, or drill a hole with a No. 29 drill. The points on the head of the screw must make contact with the hood and the side panels when it is in place. If the points on the screw head do not make contact with the hood use the washer under the head of the screw. Be sure the paint is clean under the screws which hold the side panels in place.

On the next page is shown a chart giving the suppression required on some 1940 cars.

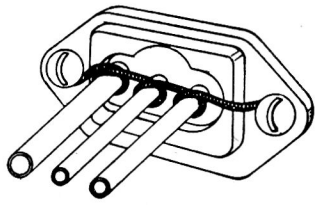

FIGURE 9
Ground the Tubing and Rods coming thru the Dash

NOTE 1 — Ford Cars — The body of the car must be grounded. Drill a small hole on the frame at the left rear of the car. Also drill a small hole in the bottom of the tool compartment. Fasten approximately 8″ of braid between these two points with No. 8 drive screws. Be sure the paint is cleaned under the braid where it connects to the car.

NOTE 2 — Chevrolet Cars — Bond the exhaust pipe. Connect approximately 6″ of braid from the front end of the muffler to the frame. The braid can be fastened under the nut holding the clamp on the muffler and to the frame with a nut and bolt.

NOTE 3 — Plymouth — Bond the motor block. Connect approximately 6″ of braid between the right rear stud of the motor to the cowl. Clean the paint from under the braid before tightening the screw.

NOTE 4 — Chrysler, DeSoto and Dodge — Bond the motor block. Same as Note 3.

NOTE 5 — Chrysler, DeSoto and Dodge — The body of the car must be grounded. Connect approximately 6″ of braid between the left front corner of the body, just ahead of the foot pedals, to the frame of the car. Clean the paint from under the braid where the connections are made.

NOTE 6 — Buick — Bond the motor block. Using approximately 8″ of braid connect one end of the braid to a cable clamp bolt on the side of the motor and the other end of the braid to the cowl.

NOTE 7 — Buick and Oldsmobile — The body of the car must be grounded. Connect approximately 13″ of braid, between the left rear plate which supports the individual spring suspension on the cowl housing, and the bracket supporting the stabilizer rod. Fasten the braid to the bolt in the plate and the bolt on the side bracket. Be sure the surface is cleaned of paint before tightening. IMPORTANT — The braid must be long enough to allow for flexing of the springs.

NOTE 8 — Chrysler, DeSoto, Dodge and Oldsmobile— Bond the exhaust pipe. Connect approximately 6″ of braid between the exhaust pipe and the bracket supporting the fuel tank pipe. Drill a small hole in the bracket with a No. 29 drill and fasten one end of the braid. The other end of the braid can be fastened to the clamp nut on the exhaust pipe.

NOTE 9 — Studebaker — Bond the housing holding the spark plug wires. Solder one end of a 10″ piece of braid to the housing holding the spark plug wires and connect the other end to the cowl.

NOTE 10 — Oldsmobile — Bond the motor block. Same as Note 6.

Suppression Requirements for 1940 Cars

1940 MODELS	SPARK PLUG SUPPRESSORS 33-1015	DISTRIBUTOR SUPPRESSOR 33-1196	GENERATOR CONDENSER 30-4490	IGN. SWITCH CONDENSER 30-4007	VOLTAGE REG. CONDENSER 61-0040	WINDSHIELD WIPER COND. 30-4663	FUEL TANK CONDENSER 30-4007	OIL GAUGE CONDENSER 30-4007	HOOD GRD. SCREWS & WASHERS	STEERING COLUMN BOND	MOTOR BOND	BODY BOND	EXHAUST BOND	WOOD HANDLE SPRING WASHERS	CONTROL BONDS	GAUGE RESISTOR 67-0011
FORD	8		Use 30-4007	Use 30-4490	1		1	1	3			Note 1				
CHEVROLET	6	1	1	1					4				Note 2		Fig. 9	
PLYMOUTH	6	1	1		1				3	6″	Note 3			1	Fig. 9	1
CHRYSLER, DODGE and DESOTO	6 or 8	1	1	1		1			4	8″	Note 4	Note 5	Note 8	1	Fig. 9	1
BUICK	8	1	1	1					3	?	Note 6	Note 7			Fig. 9	
STUDEBAKER	6 or 8	1	1	1	1	1		1	3	2—6″	Note 9					
OLDSMOBILE	6 or 8	1	1	1					3	8″	Note 10	Note 7	Note 8		Fig. 9	
PONTIAC	6 or 8	1	1	1					3						Fig. 9	

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