

# SOLID STATE RADIO

## by **MOTOROLA**

### INSTALLATION INSTRUCTIONS

### SAPPHIRE XVIII AM RADIO OR

### SAPPHIRE XIX AM-FM RADIO

### INTO VOLKSWAGEN

### VW-181

This package contains the following:

QTY	PART NO.	DESCRIPTION
1	70D42757C03	AM Radio (5VW1327)
	or	
	70D42994C03	AM-FM Radio (5VW2326)
1	85D42574A02	Antenna Assembly
1	15D40840C01	Shroud (AM Radio)
	or	
	15B42086C02	Shroud (AM-FM Radio)
1	1V43499C13	Speaker & Housing Assembly
1	30C40948C05	Speaker Lead Extension Cable
1	8B40141C01	Capacitor, Generator
1	42K565362	Strap, Perforated Mounting
1	7B43067A01	Bracket, Speaker Mounting
2	36B40544C02	Knob, Front
1	36B42182B01	Knob, Rear
1	37A42594A07	Sleeve, Insulator (Large Dia.)
1	37A42594A08	Sleeve, Insulator (Small Dia.)
6	3S136900	Screw, No. 10-16 x 5/8" Tapping
2	2S10054A18	Spring Nut
1	2S10080A23	Nut, 1/4" Stamped
2	2S136678	Nut, 3/8" Hex
1	68P43322A57	Installation Instructions
1	54P43317A63	Warranty Tag (AM Radio)
	or	
	54P43317A65	Warranty Tag (AM-FM Radio)
1	68P43316A98	Owner's Manual (AM Radio)
	or	
	68P43316A77	Owner's Manual (AM-FM Radio)

**MOTOROLA INC.**



9401 W. Grand Ave., Franklin Park, Ill.



# INSTALLATION INSTRUCTIONS

**CAUTION:** Disconnect battery cable from battery before starting installation.

## 1. INSTALL ANTENNA

- Use template provided to locate and drill antenna mounting holes.
- To insure good grounding, scrape inside surface around antenna mounting holes to bare metal. Scraped area should extend about 3/8" (9.5 mm) beyond the antenna mounting holes. (Poor grounding will result in excessive static noise.)
- Mount antenna as shown in Figure 1.
- Route antenna lead-in over steering column to a point near ashtray.

## 2. INSTALL SPEAKER

- Locate mounting surface for speaker as indicated in Figure 2.
- Use speaker mounting bracket as guide to mark and drill two 0.152" (3.86 mm) diameter holes as indicated in Figure 4.
- Connect speaker lead extension cable to speaker.
- Install speaker mounting bracket to firewall; then attach speaker and housing assembly to mounting bracket as indicated in Figure 4.

## 3. INSTALL RADIO

- Use shroud as guide to mark and drill two 0.152" (3.86 mm) diameter holes under instrument panel at location indicated in Figures 2 and 3.
- Mount shroud under instrument panel with two No. 10 x 5/8" tapping screws.
- Carefully place radio into shroud and secure radio to shroud with two 3/8" hex nuts.

**CAUTION:** On AM-FM radio, be sure switch lever on radio engages slide bar on shroud properly.

- Press knobs onto control shafts. (Single rear knob onto left control shaft.)
- Bend perforated mounting strap as required and install as indicated in Figure 3.

**IMPORTANT:** Perforated mounting strap must be installed.

- Mount generator condenser as shown in Figure 5.

**NOTE:** Failure to install this condenser may result in noisy radio reception after normal generator wear.

- Make following electrical connections:

- Connect radio power lead and ground lead as indicated in Figure 6.
- Insert terminals of radio speaker leads into appropriately sized insulator sleeve and connect to speaker lead extension cable (Figure 3).

- Reconnect battery cable.

## 5. ADJUST ANTENNA TRIMMER

- Turn radio on for AM operation.
- Turn tuning knob clockwise (right) until station pointer stops. Radio is now tuned to the upper extreme of the AM frequency band - 1610KHz.
- Turn volume control and tone control completely clockwise. A weak station or hissing sound (random noise) will be heard. However, if a station comes in relatively strong at this point on the frequency band, turn tuning knob slightly counter-clockwise (left) so that a weak station or random noise is heard.
- Detach tuning knob to uncover antenna trimmer access hole.
- Adjust antenna trimmer screw until maximum (peak) volume of random noise and/or weak station is heard. (See Figure 3 for location of antenna trimmer screw)
- Reattach tuning knob.

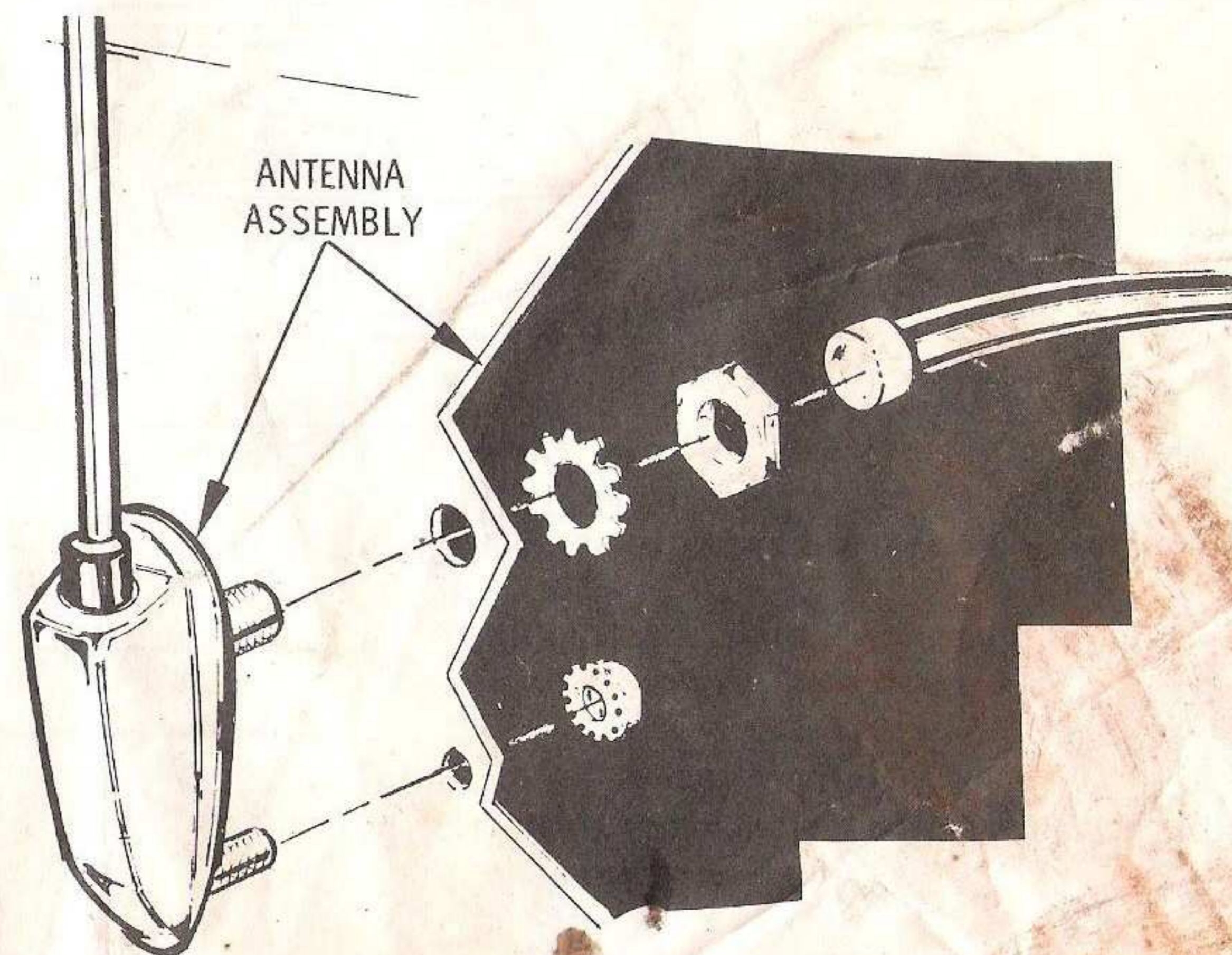


FIGURE 1



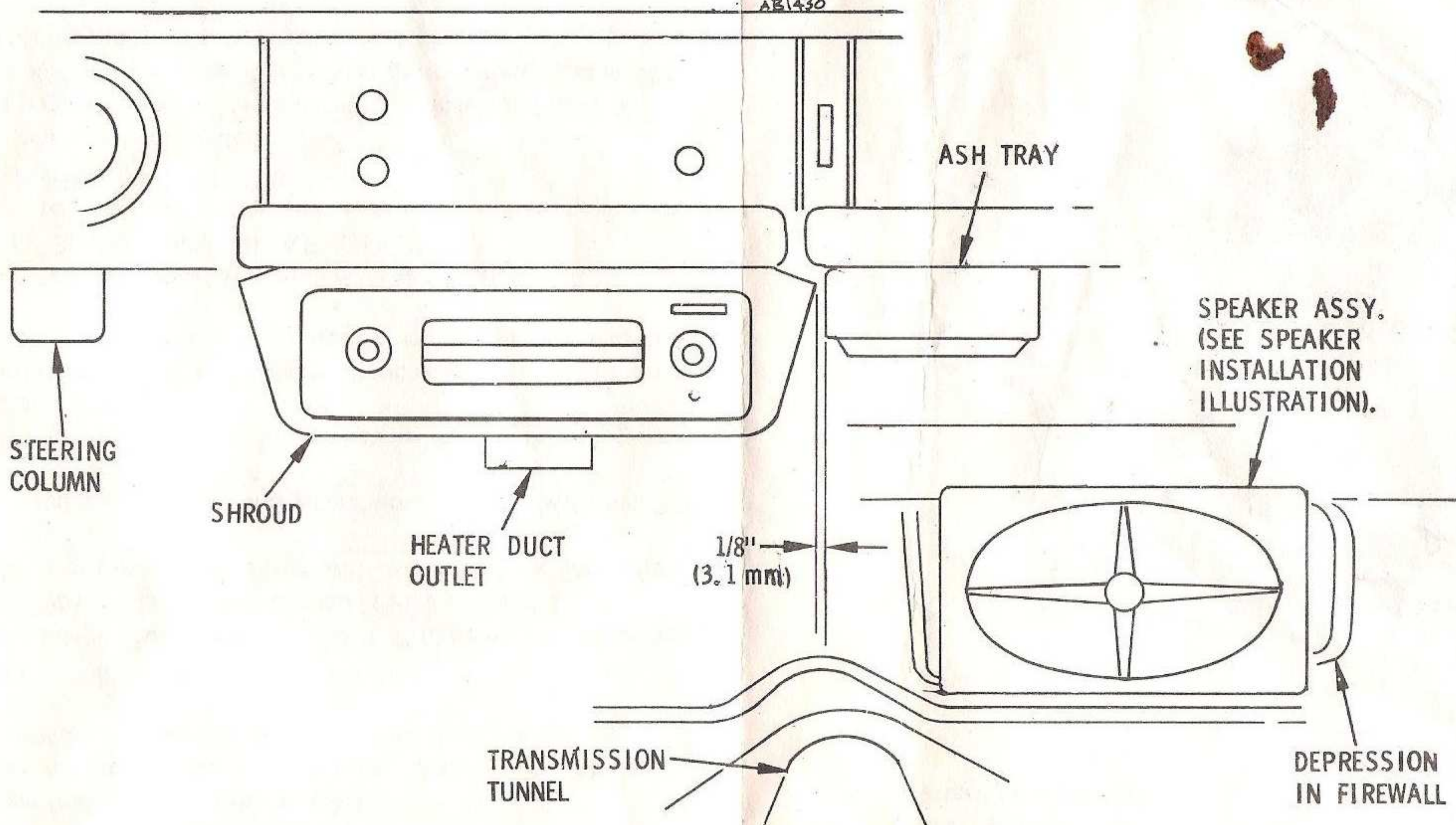


FIGURE 2

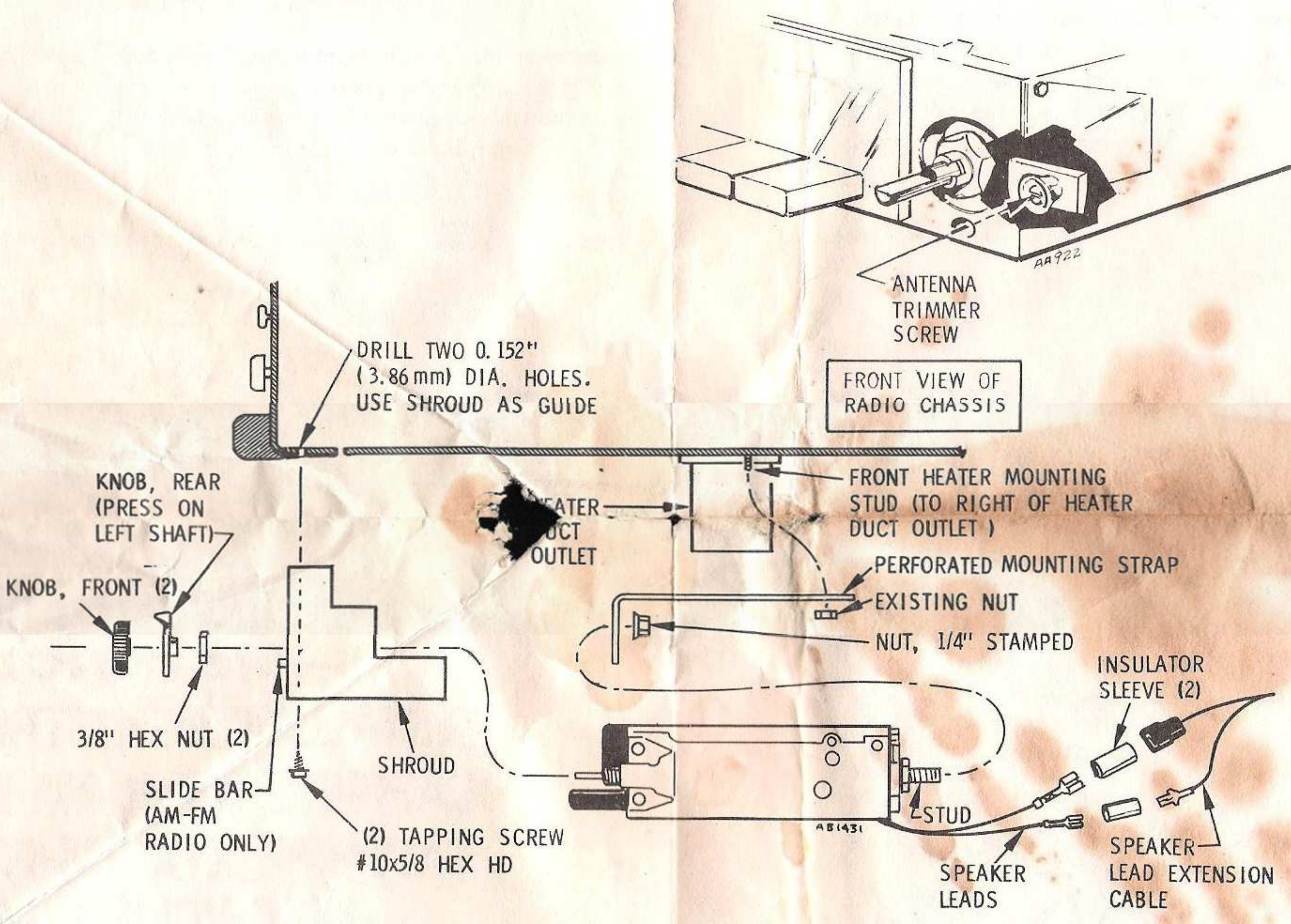


FIGURE 3

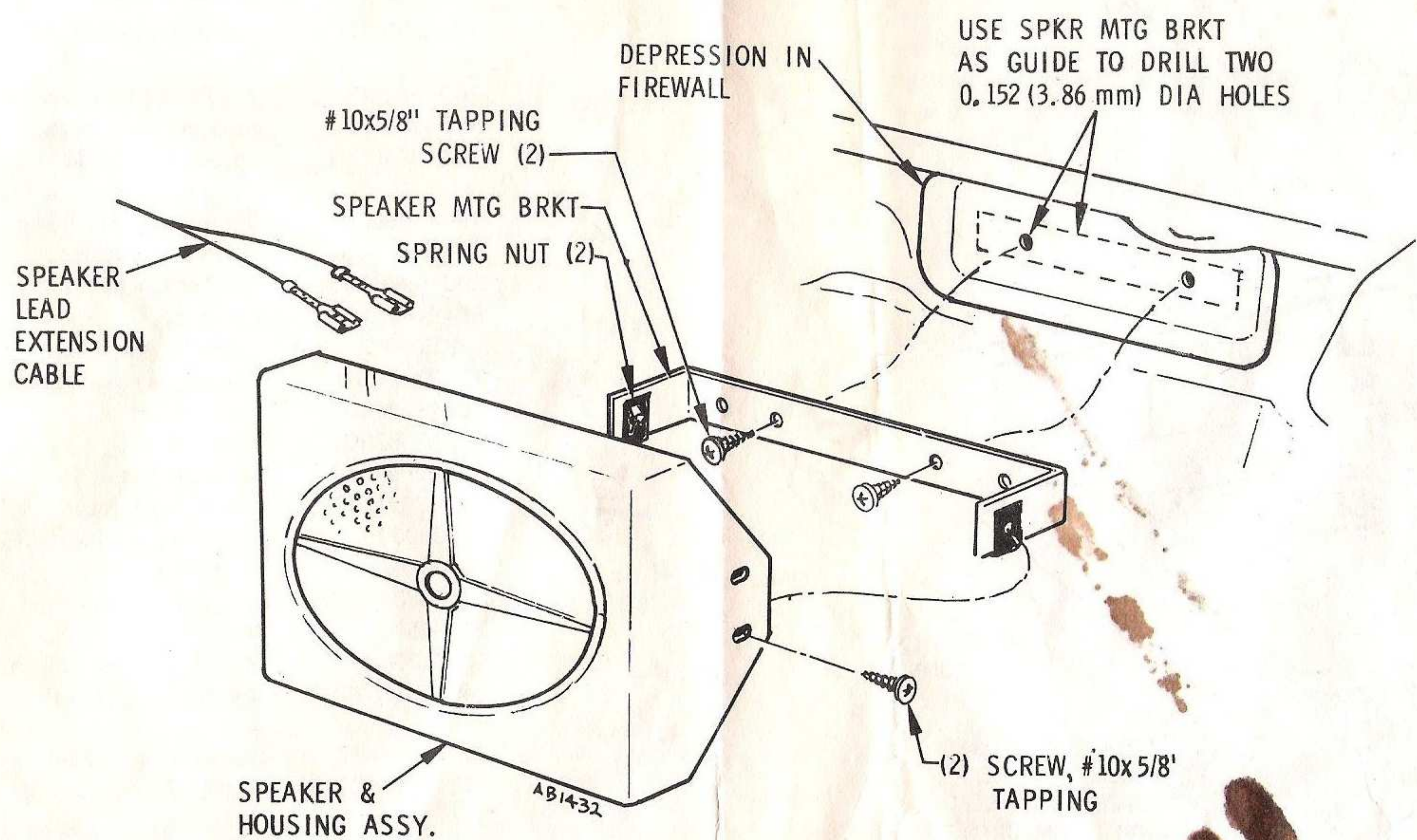


FIGURE 4



MOUNT CONDENSER  
UNDER EXISTING  
SCREW & LOCKWASHER

ARMATURE LEAD  
(HEAVY RED)

CONNECT CONDENSER  
LEAD UNDER TOP NUT  
ON ARMATURE  
TERMINAL OF  
GENERATOR

FIGURE 5

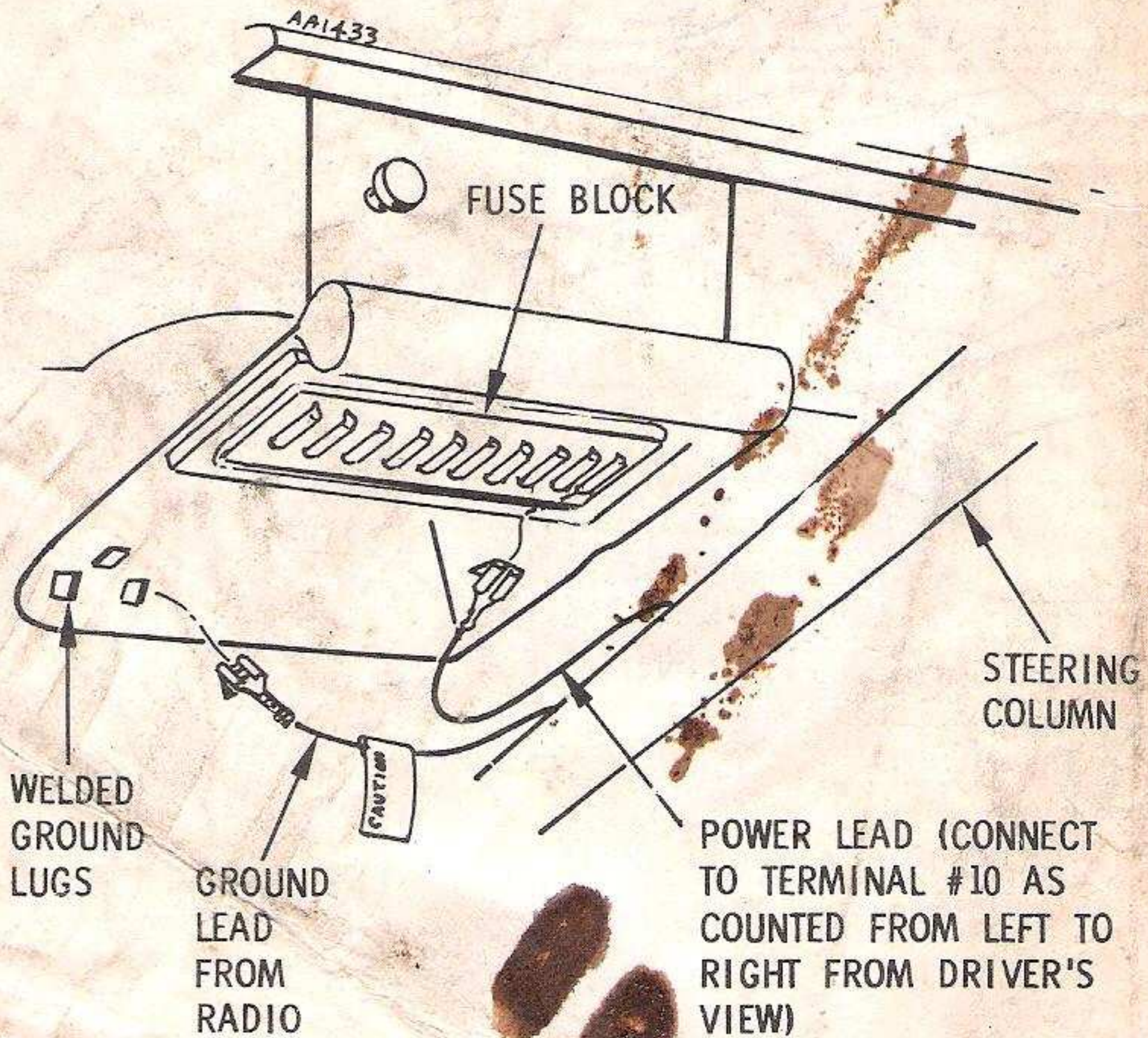
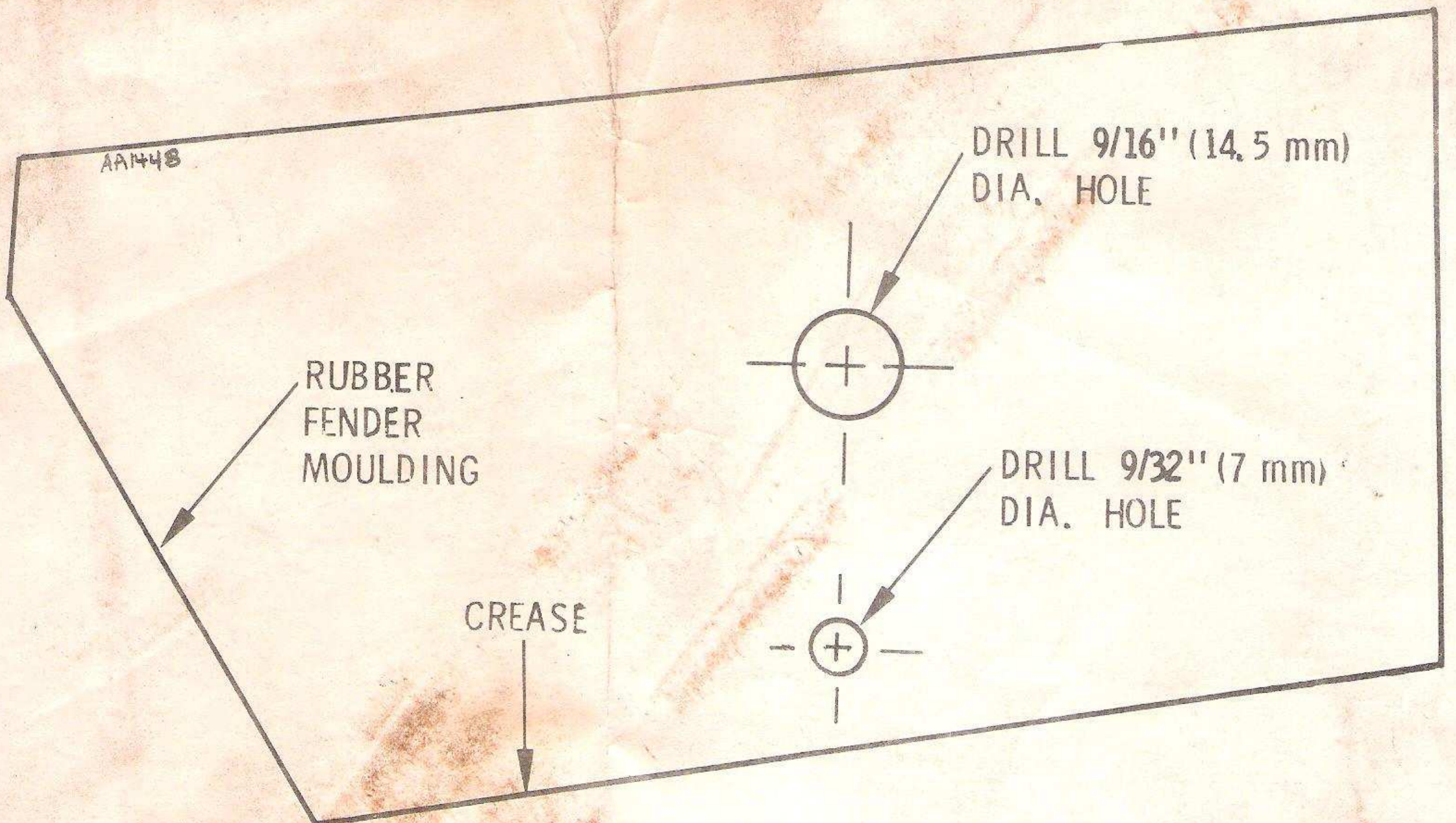
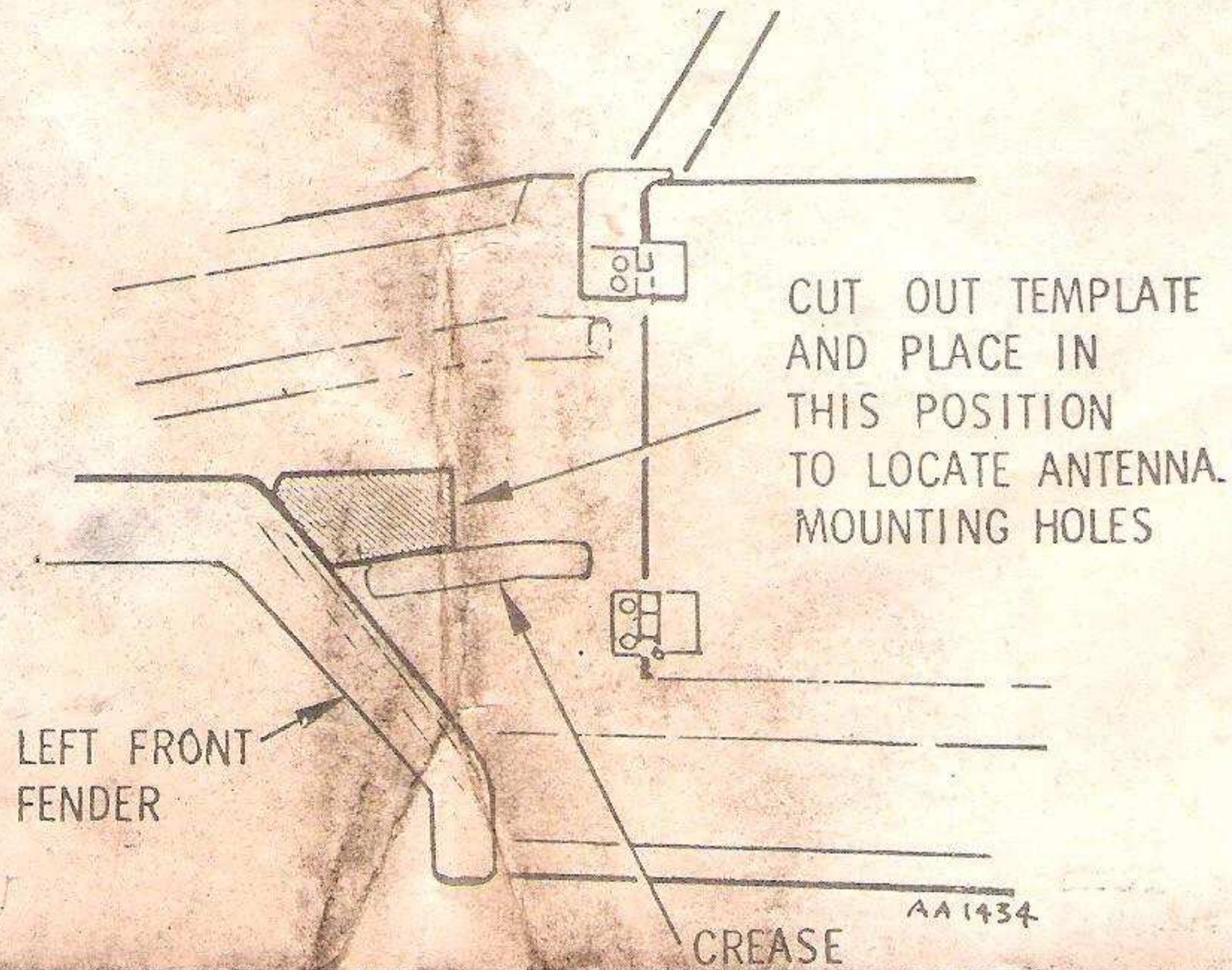


FIGURE 6.



ANTENNA DRILL TEMPLATE  
FOR  
VOLKSWAGEN  
VW181

**IMPORTANT:** Use this template instead of the template included in the installation instruction sheet.









## OPERATING INSTRUCTIONS

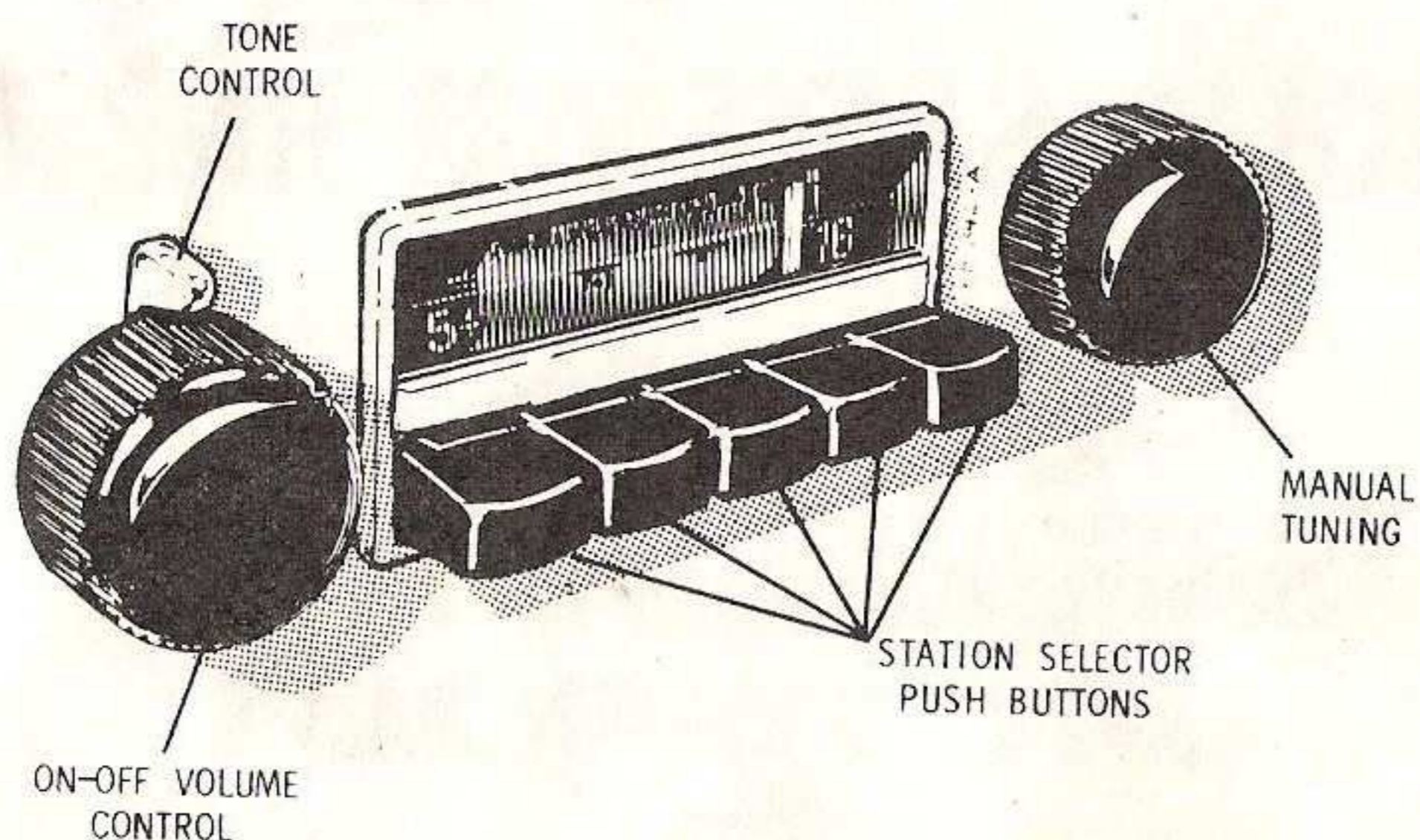


FIG. 1

**ON-OFF SWITCH AND VOLUME CONTROL.** The on-off switch and volume control are combined and are operated with the left-hand knob.

**TONE CONTROL.** Turn the tone control fully clockwise for voice position; mid-position for music; fully counterclockwise for bass.

**TO TUNE STATIONS MANUALLY,** turn the right-hand knob (Fig. 1) either left or right.

**PUSH-BUTTON TUNING** is accomplished by firmly pressing one of the push-buttons which automatically selects the station for which it was set. (See Fig. No. 2 TO SET PUSH BUTTONS.)

**ANTENNA.** Radio performs best with antenna fully extended.

## TO SET PUSH BUTTONS

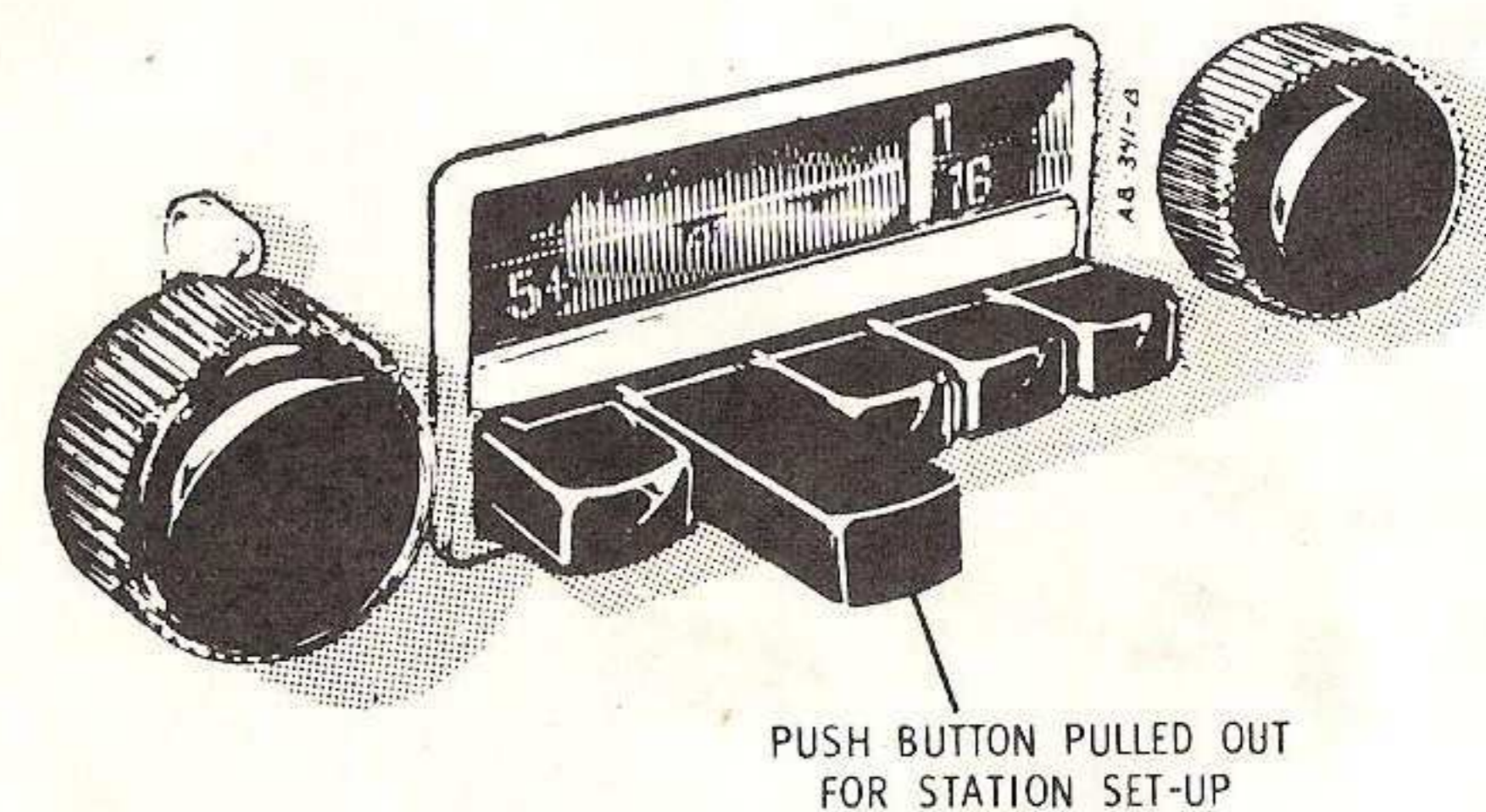


FIG. 2

Stations may be set up in any order. However, for convenience in remembering, it is suggested that stations be set up in frequency sequence.

1. Turn radio on and allow to operate for fifteen minutes. Antenna should be fully extended.
2. Unlock push-buttons by pulling them out. (See Fig. 2)
3. Accurately tune in a station with the manual tuning knob.
4. Lock one push-button to that station by pushing firmly in.
5. Repeat above procedure for remaining push-buttons.

**Note:** In metropolitan areas, it is recommended that the push-buttons be set up in a shielded place where signals are weak, such as under a viaduct or in a steel-constructed building.