

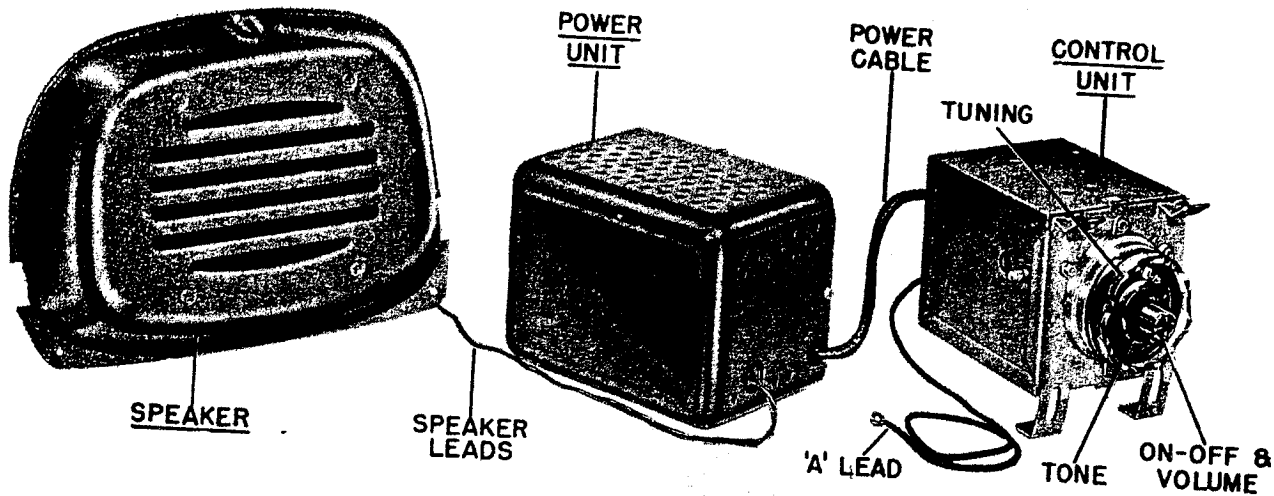
# Motorola

# AUTO RADIO

MODEL  
MOTOROLA 3MFT  
FORD  
FAE-18805-A

## INSTALLING AND SERVICE MANUAL

FOR  
1953-55  
FORD PICKUP  
ORIGINAL RADIO



### GENERAL INFORMATION

TYPE - Two-piece automotive type receiver, specifically designed for installation in 1953 Ford trucks.

#### TUBE COMPLEMENT - Control Unit

- 6BA6 - RF Amplifier
- 6BE6 - Converter
- 6BA6 - IF Amplifier
- 6AT6 - Det, AVC & AF Amp

#### Power Unit

- 6AQ5 - Power Amplifier
- 6X4 - Rectifier

TUNING RANGE - 540 to 1600 Kc

IF - 265 Kc

POWER OUTPUT - 4 watts (max.)

OPERATES FROM - 7.2 volts DC at 7.7 amp (nominal)

### OPERATING INSTRUCTIONS

**ON-OFF SWITCH AND VOLUME CONTROL.** To turn the receiver on, rotate the volume control knob to the right until it "clicks". Allow the receiver to reach operating temperature (approximately 20 seconds). To increase volume, continue to rotate this control to the right. To turn the receiver off, rotate the volume control to the left until it "clicks".

**TUNING.** The tuning control is normally in the fine tuning position. For coarse or rapid tuning, push in and hold in the tuning control while turning it. The frequency to which the receiver is tuned is indicated by the dial light beam (center of dial). Tune carefully until you are exactly on the frequency or position for clearest reception. After the station is tuned in properly, adjust the volume control to the desired level.

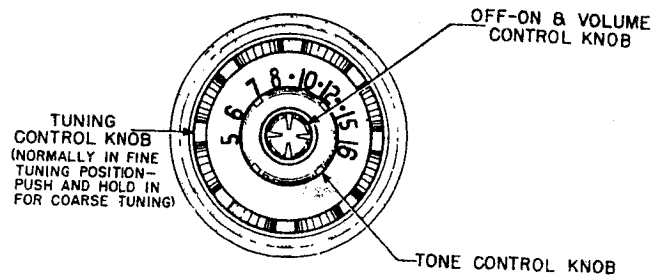


FIGURE 1. OPERATING CONTROLS.

FOR APPLICABLE BULLETINS & SUPPLEMENTS HERE:

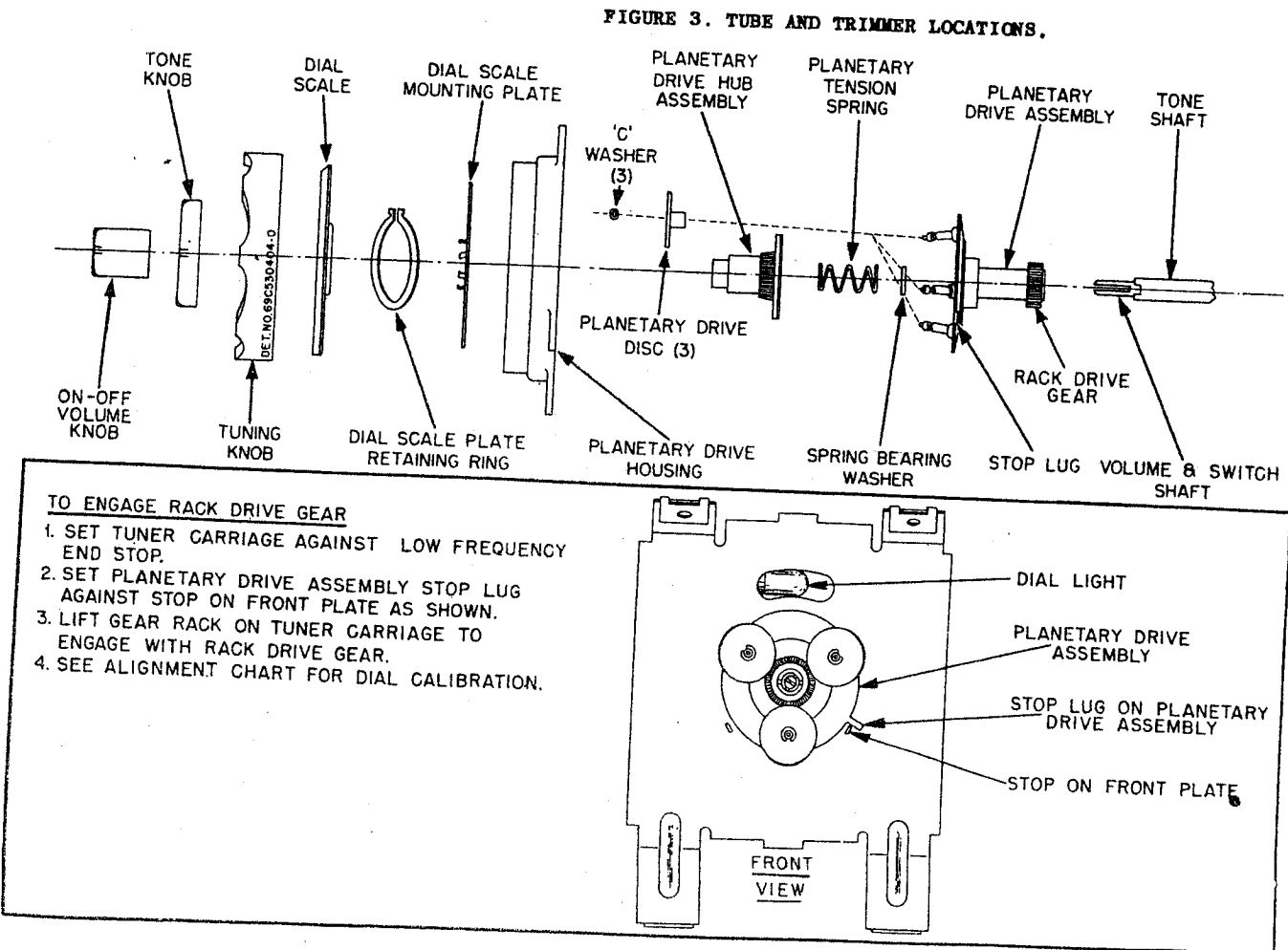
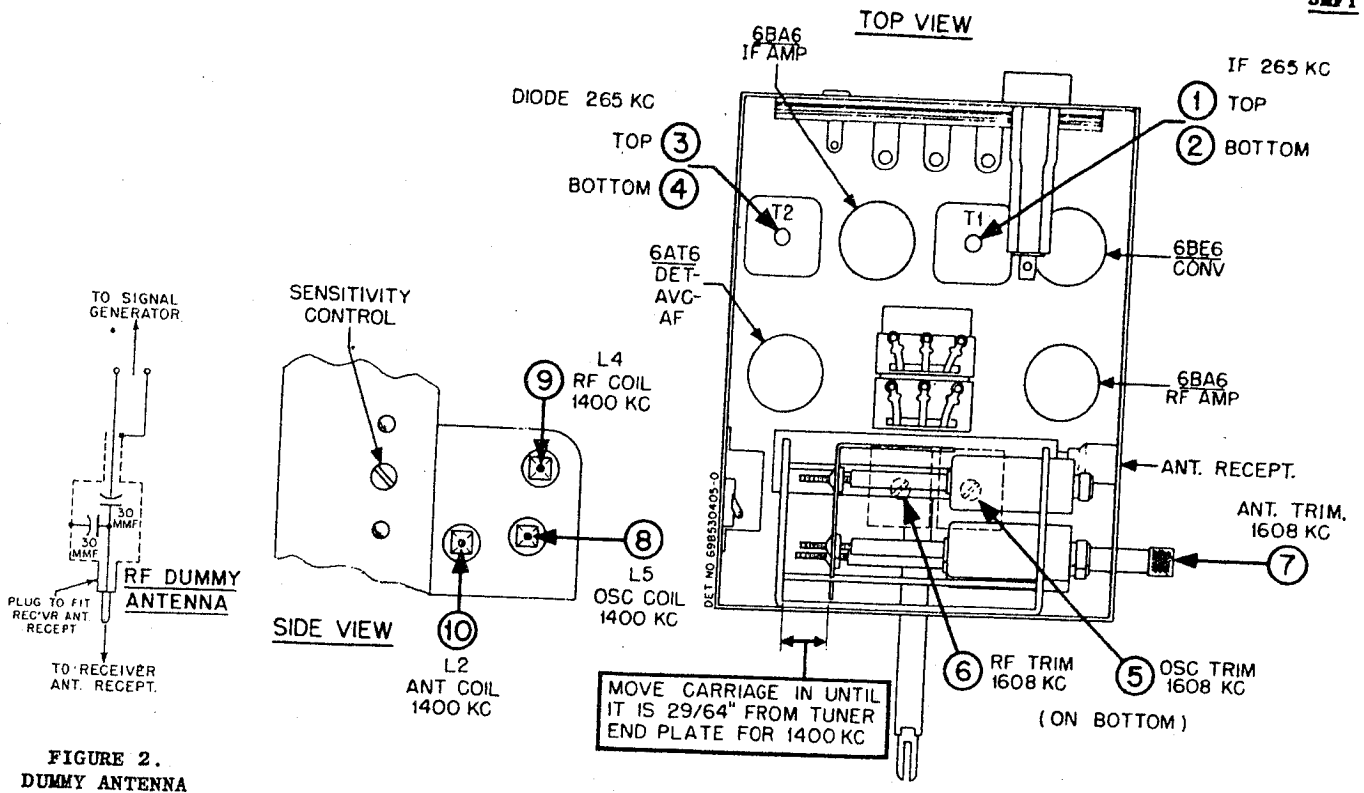


FIGURE 4. PLANETARY DRIVE ASSEMBLY.

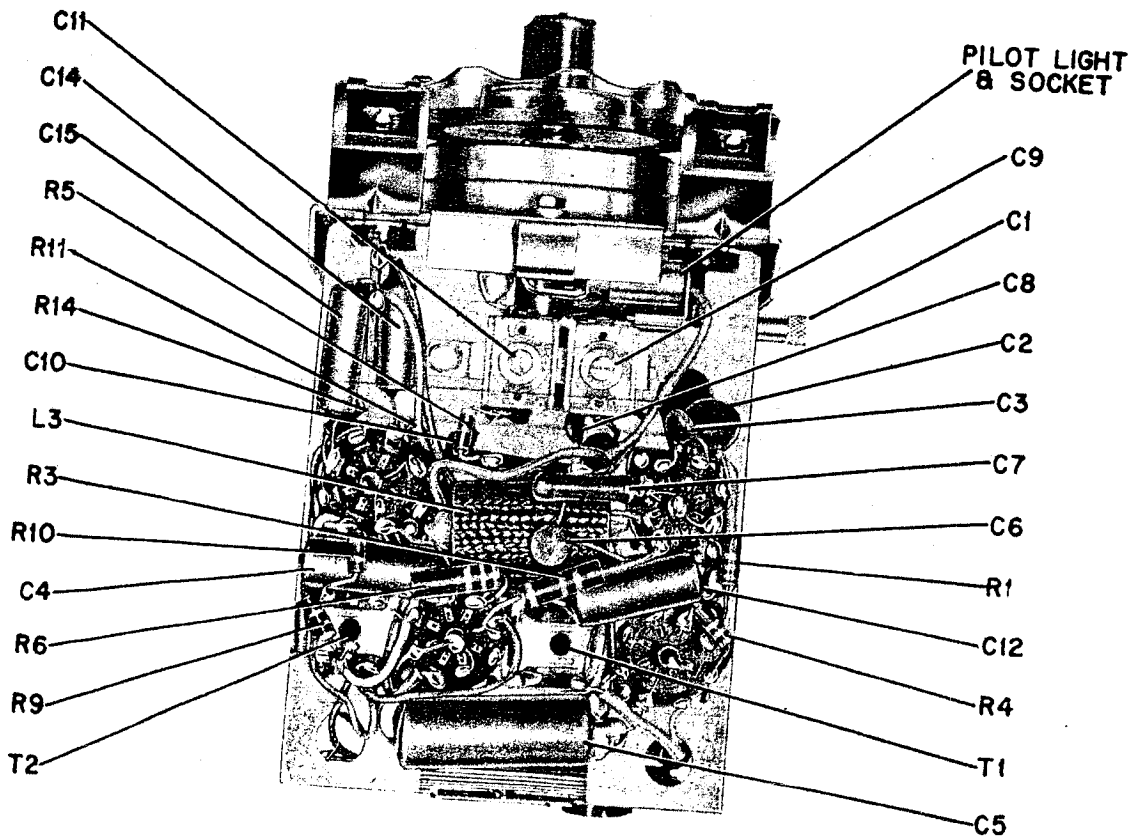
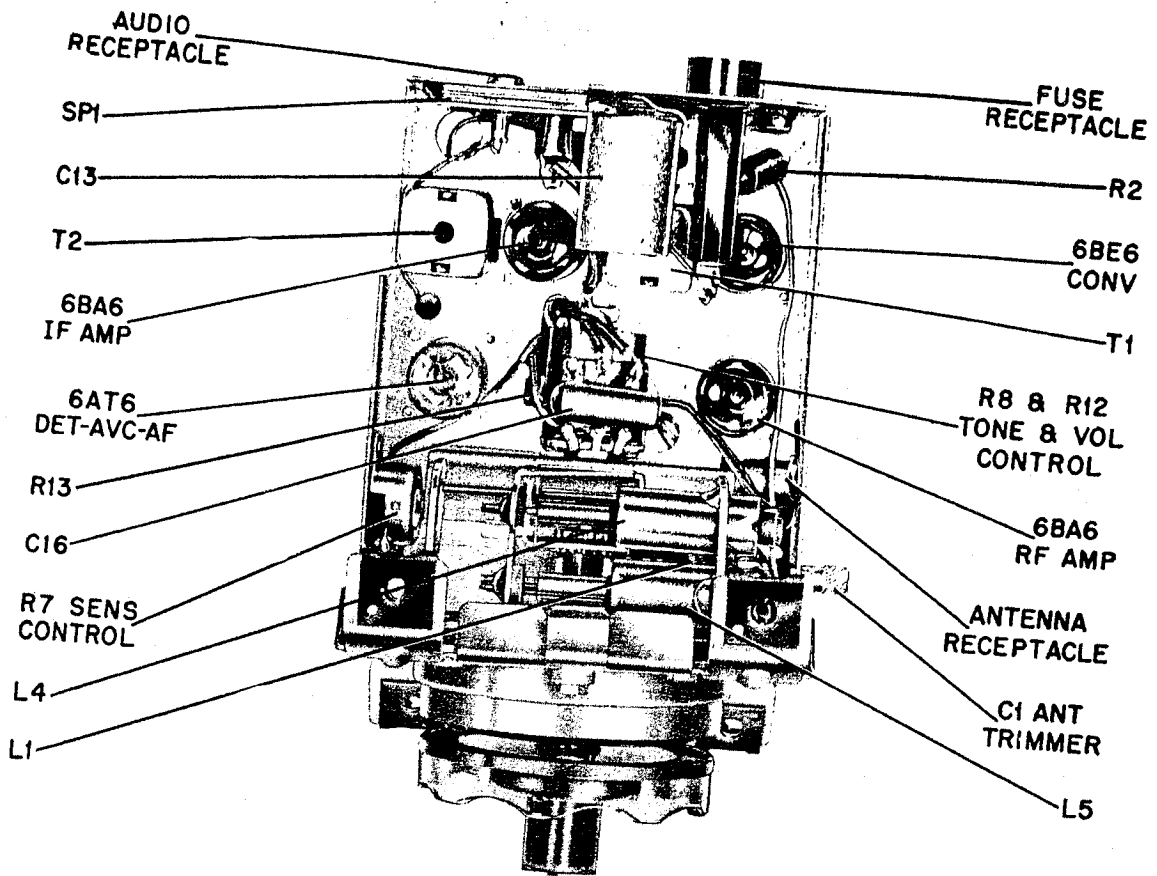


FIGURE 5. PARTS LOCATIONS (CONTROL UNIT).

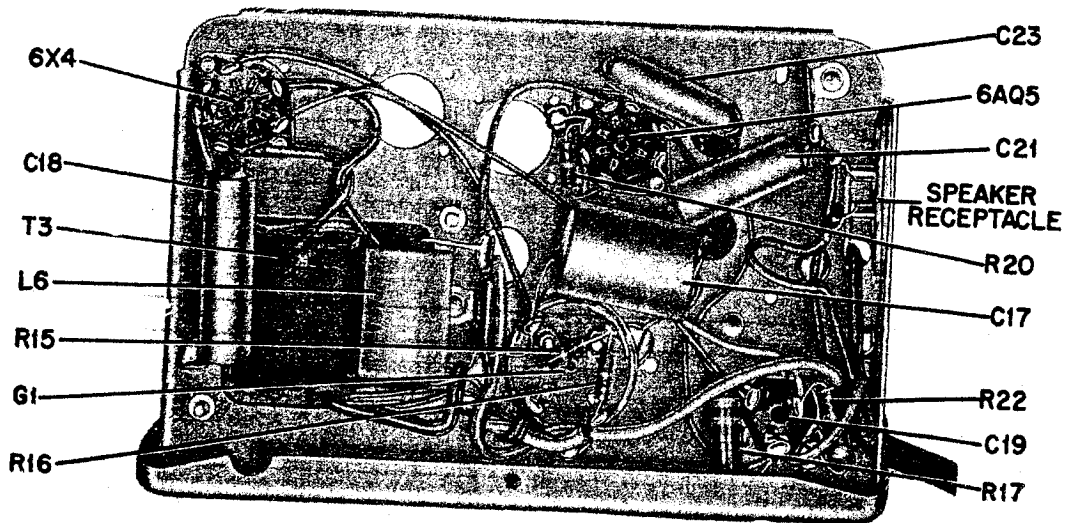
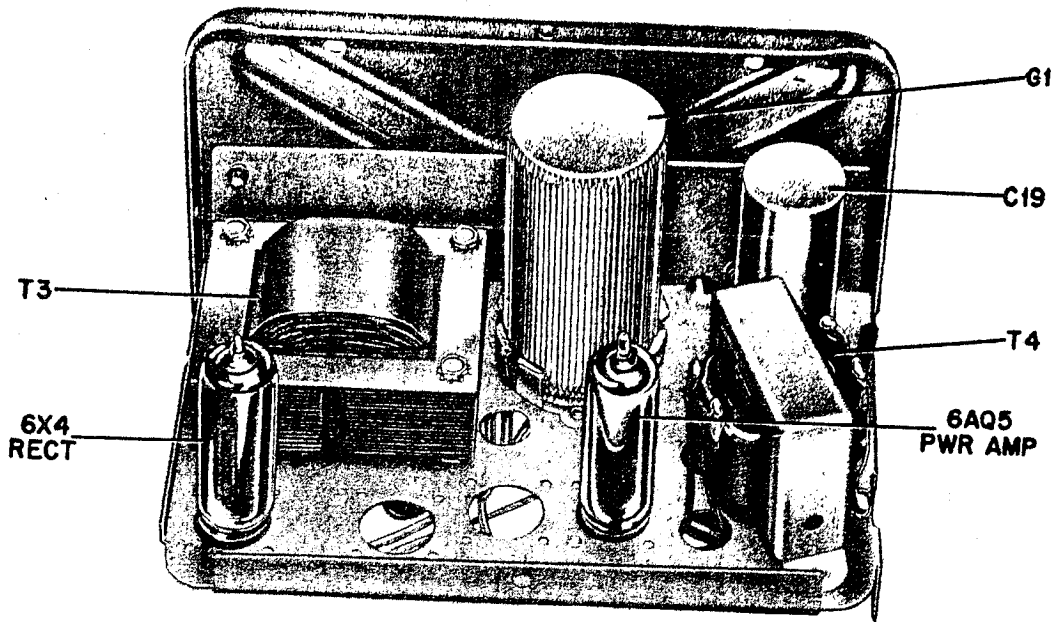
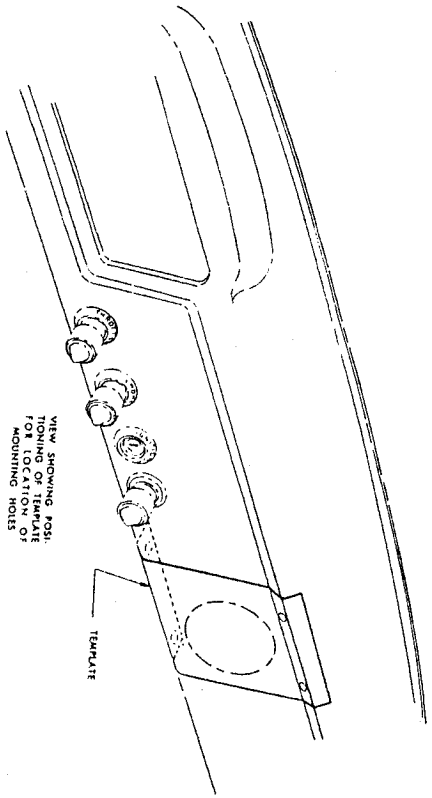
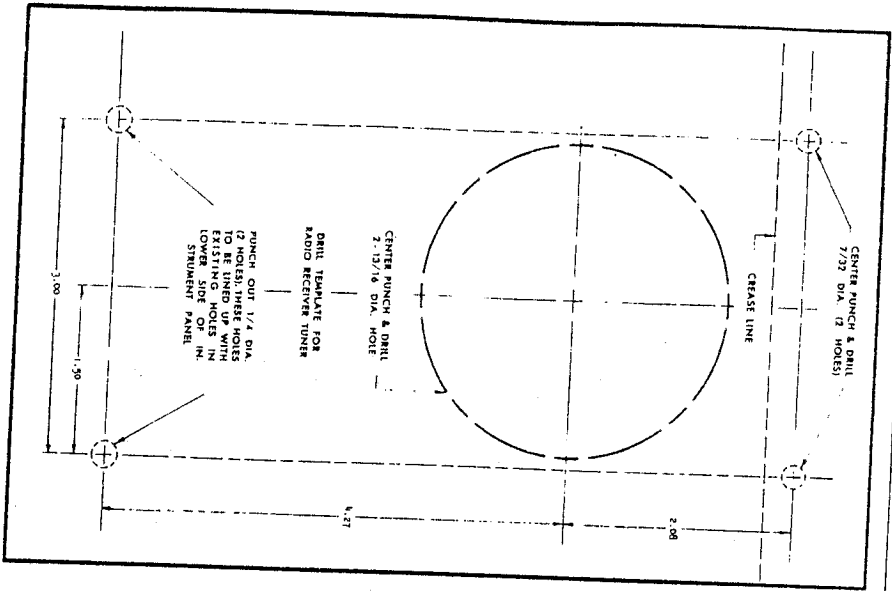


FIGURE 6. PARTS LOCATIONS (POWER UNIT).

FIGURE 8. INSTALLATION DRILLING TEMPLATE



THIS SHEET TO BE USED  
IN CONNECTION WITH  
SHEET 1 OF 3

INSTALLATION-KIT RADIO RECEIVER SK-7AE-1800-A  
(SHEET 3 OF 3)

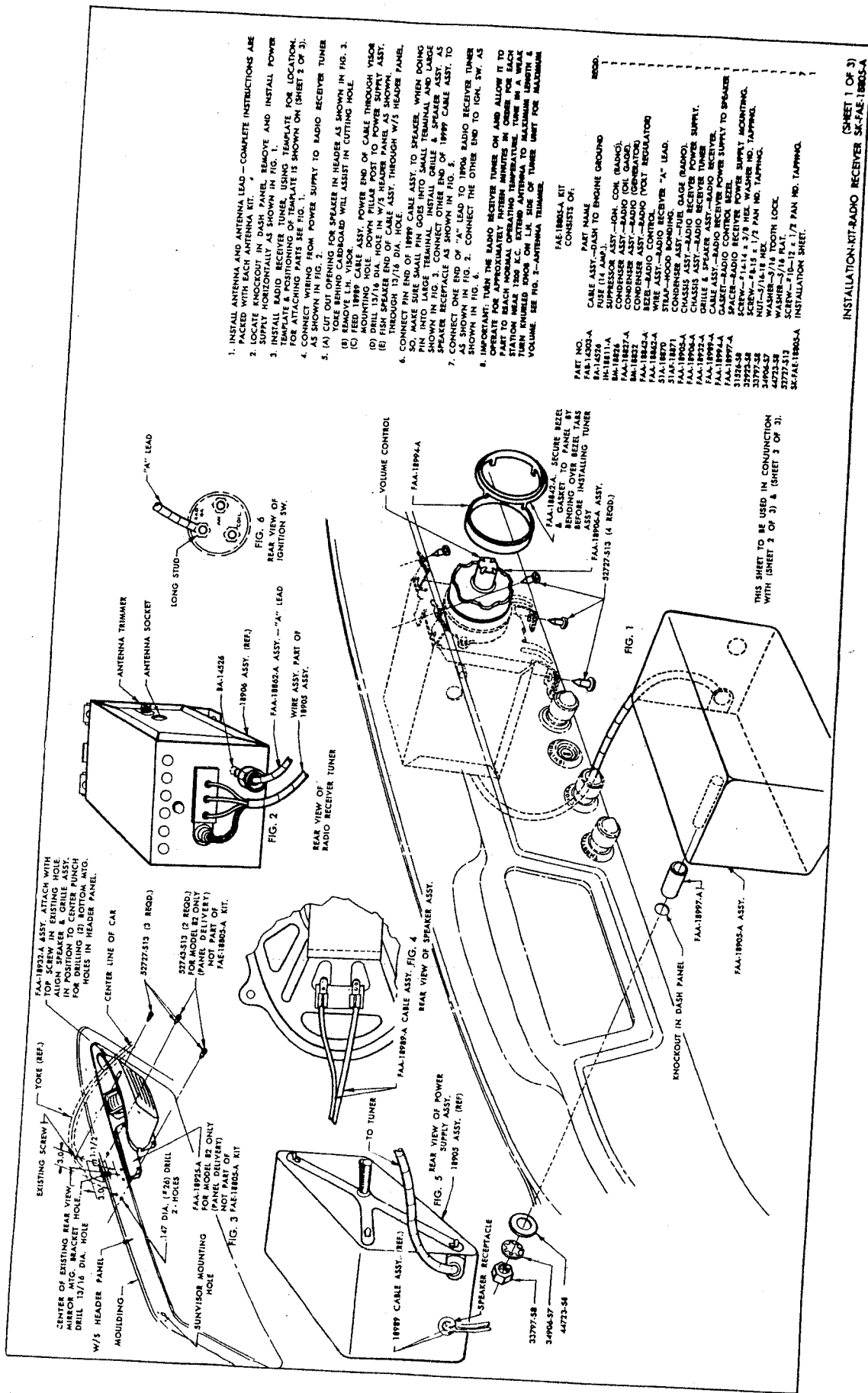


FIGURE 7. RADIO INSTALLATION.

1. INSTALL ANTENNA AND ANTENNA LEAD - COMPLETE INSTRUCTIONS ARE PACKED WITH THE ANTENNA KIT.
2. LOCATE KNOCKOUT IN DASH PANEL. REMOVE AND INSTALL POWER SUPPLY HORIZONTALLY AS SHOWN IN FIG. 1.
3. INSTALL RADIO RECEIVER TUNER. DRILL 13/16 DIA. HOLE IN CENTER OF EXISTING REAR VIEW MIRROR MOUNTING TEMPLATE FOR LOCATION. DRILLING TEMPLATE IS SHOWN ON (SHEET 2 OF 3).
4. CONNECT WIRING PARTS SEE FIG. 1.
5. AS SHOWN IN FIG. 1, FROM POWER SUPPLY TO RADIO RECEIVER TUNER
6. (A) CUT OUT OPENING FOR SPEAKER IN HEADER AS SHOWN IN FIG. 2. TORSE BEHIND CARBOARD WILL ASSIST IN CUTTING HOLE.
7. (B) DRILL 13/16 DIA. HOLE IN HEADER PANEL AS SHOWN. AS SHOWN IN FIG. 2. CONNECT OTHER END OF 1899 CABLE ASST. TO SPEAKER RECEPTACLE AS SHOWN IN FIG. 3.
8. (C) MAKE SURE END OF 1899 CABLE ASST. TO SPEAKER, WHEN DOING SO, PIN INTO LARGE TERMINAL GOES INTO SMALL TERMINAL AND SMALL TERMINAL GOES INTO LARGE TERMINAL.
9. (D) DRILL 13/16 DIA. HOLE IN HEADER PANEL AS SHOWN. AS SHOWN IN FIG. 2. CONNECT OTHER END OF 1899 CABLE ASST. TO SPEAKER RECEPTACLE AS SHOWN IN FIG. 3.
10. (E) IMPORTANT: TURN THE RADIO RECEIVER TUNER ON AND ALLOW IT TO OPERATE FOR APPROXIMATELY FIFTEEN MINUTES IN ORDER FOR EACH STATION TO REACH NORMAL OPERATING TEMPERATURE. IN A WEAK STATION TURN KNUBBED END OF ANTENNA TO BALANCE IN A WEAK VOLUME. SEE FIG. 3 - ANTENNA TRIMMER.

FAE-1895A KIT  
 CONSISTS OF:

PART NO.	PART NAME
FAA-1895A	CABLE ASST. - DASH TO ENGINE GROUND
FAA-1895A	SUPPRESSION KIT (W/ 100 OHM CON. (RADIO))
HA-18811-A	CONDENSER ASST. - RADIO (CON. (RADIO))
BA-18827-A	CONDENSER ASST. - RADIO (CON. (RADIO))
BA-18827-A	REAR WIRE ASST. - RADIO (VOLT REGULATOR)
FAA-1842-A	WIRE ASST. - RADIO (VOLT REGULATOR)
FAA-1842-A	WIRE ASST. - RADIO (VOLT REGULATOR)
31A5-1887D	STRAP - WOOD BONDING
FAA-1895A	CONDENSER ASST. - FUEL GAUGE (RADIO)
FAA-1895A	CHASSIS ASST. - RADIO RECEIVER POWER SUPPLY
FAA-1895A	DRILL & SPEAKER ASST. - RADIO RECEIVER
FAA-1899A	CABLE ASST. - RADIO RECEIVER POWER SUPPLY TO SPEAKER
FAA-18997-A	SPACER - F1414 x 1/2 PAN. NO. TAPPING
31264-58	SCREW - F1414 x 1/2 PAN. NO. TAPPING
34964-57	SCREW - F1414 x 1/2 PAN. NO. TAPPING
44773-56	WASHER - 3/16 IN. HOLES LOCK
33727-513	SCREW - F10-12 x 1/2 PAN. NO. TAPPING
347A-1895A	INSTALLATION SHEET

**TONE CONTROL.** The tone control is located concentrically and directly behind the volume control knob. Turning this control to the right or left will change the tone of the receiver. The treble position is useful in overcoming wind noise, etc., when driving, while the bass position brings

out the low mellow tones of musical programs. With the tone control set midway, the full tonal range is obtained. Turning to the right will emphasize the high notes, while turning to the left will emphasize the low notes.

## ALIGNMENT

### EQUIPMENT REQUIRED

1. A small fibre screwdriver type alignment tool for IF & RF alignment.
2. A special tool for adjusting the tuner cores. Use alignment tool, Motorola Part No. 66A76278.
3. An accurately calibrated AM signal generator.
4. A low range output meter.
5. A special dummy antenna for RF alignment. Construct dummy antenna as shown in Figure 2.

### PROCEDURE

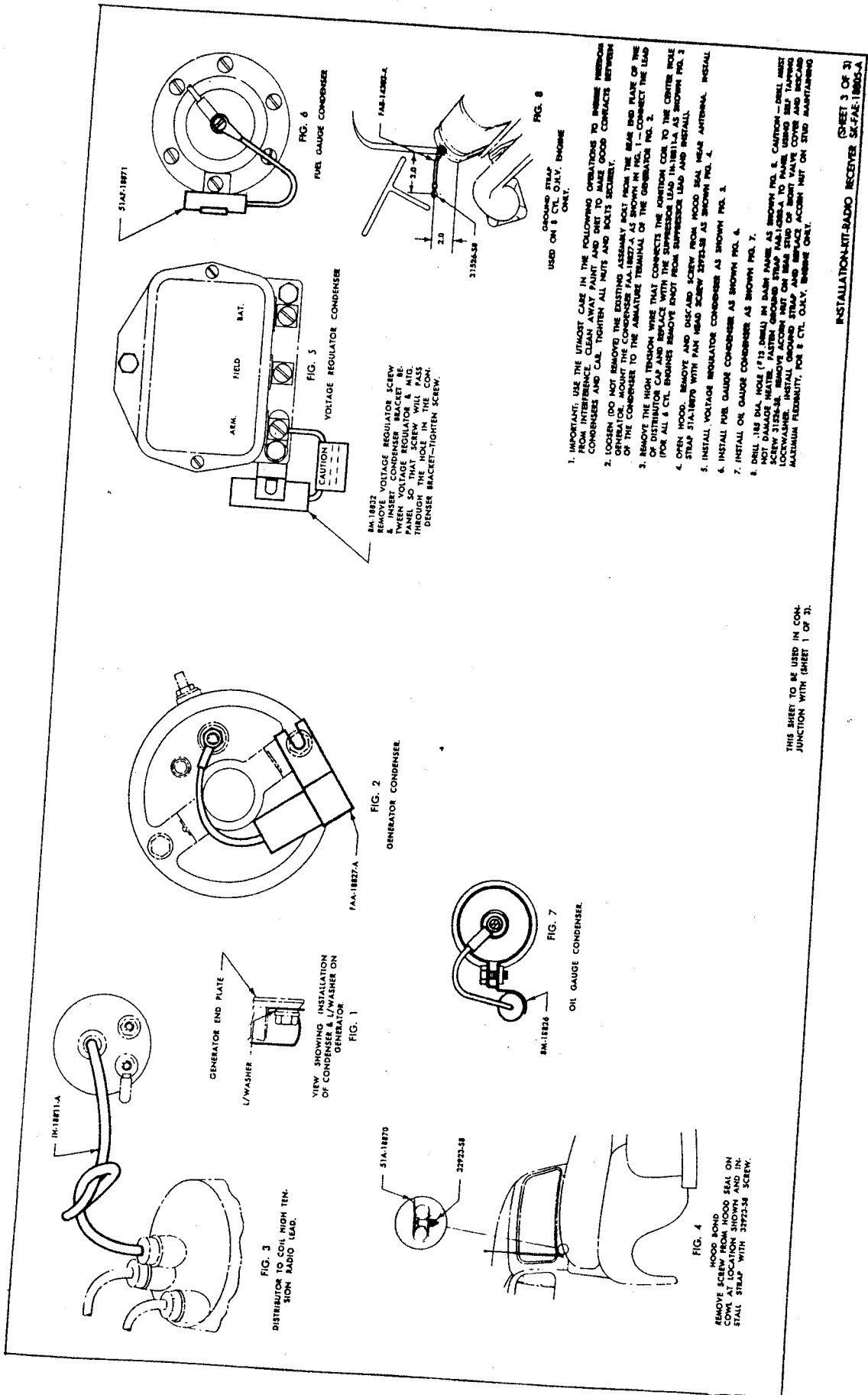
1. Remove receiver housing to expose all alignment adjustments.

2. Connect power cable and speaker leads.
3. Connect output meter across speaker voice coil.
4. Connect 7.2 volts DC to receiver "A" lead and chassis.
5. Turn receiver on and allow it to warm up for a few minutes. Set receiver volume control at maximum and tone control to treble position.
6. For greatest accuracy, keep the output of the receiver at 1 watt (1 watt = 1.79 volts on output meter) by reducing signal generator output (not receiver volume control) as stages are brought into alignment.

**IMPORTANT:** Do not push in on the alignment tool when adjusting the tuner cores. The slightest inward pressure on the alignment tool may move the tuner carriage and result in inaccurate alignment.

### ALIGNMENT CHART

STEP	DUMMY ANTENNA	GENERATOR CONNECTION	GENERATOR FREQUENCY	TUNER SET TO	ADJUST	REMARKS
<b>IF ALIGNMENT</b>						
1.	.1 mf	6BE6 grid (pin #7) and chassis.	265 Kc	Extreme high frequency end of dial (cores out)	1, 2, 3 & 4	Peak for maximum in order indicated. Check by repeating procedure.
<b>RF ALIGNMENT</b>						
Note: Before performing step 2, tuner cores should be backed out from coils so they will have no effect on the trimmer adjustments.						
2.	See Figure 2.	Antenna receptacle thru dummy antenna.	1608 Kc	Extreme high frequency end of dial	5, 6 & 7	Peak for maximum in order indicated.
3.	"	"	1400 Kc	Move carriage in until it is 29/64" from tuner end plate. See Fig. 3	8, 9, & 10	Peak for maximum in order indicated.
4.	"	"	1608 Kc	Extreme high frequency end of dial	5, 6 & 7	Peak for maximum in order indicated.
5. Repeat steps 3 & 4 until no further increase is obtainable. After final adjustment is made, cement core adjustment screws.						
<b>SENSITIVITY CONTROL</b>						
6.	See Figure 2.	Antenna receptacle thru dummy antenna.	Set to 600 Kc & 4 microvolts output	Tune for max.	Sensitivity control	Set sensitivity control for 1 watt output (1.79 volts on output meter)
<b>DIAL SCALE ADJUSTMENT</b>						
7.	Tune in a 1400 Kc signal. Place dial scale in position to indicate 1400 Kc and snap into place.					
<b>ANTENNA TRIMMER ADJUSTMENT</b>						
8.	Weak station at approx. 1400 Kc				7	With receiver installed in truck, peak antenna trimmer for maximum volume - antenna should be fully extended.



THIS SHEET TO BE USED IN CONNECTION WITH (SHEET 1 OF 3).

FIGURE 9. INTERFERENCE ELIMINATION



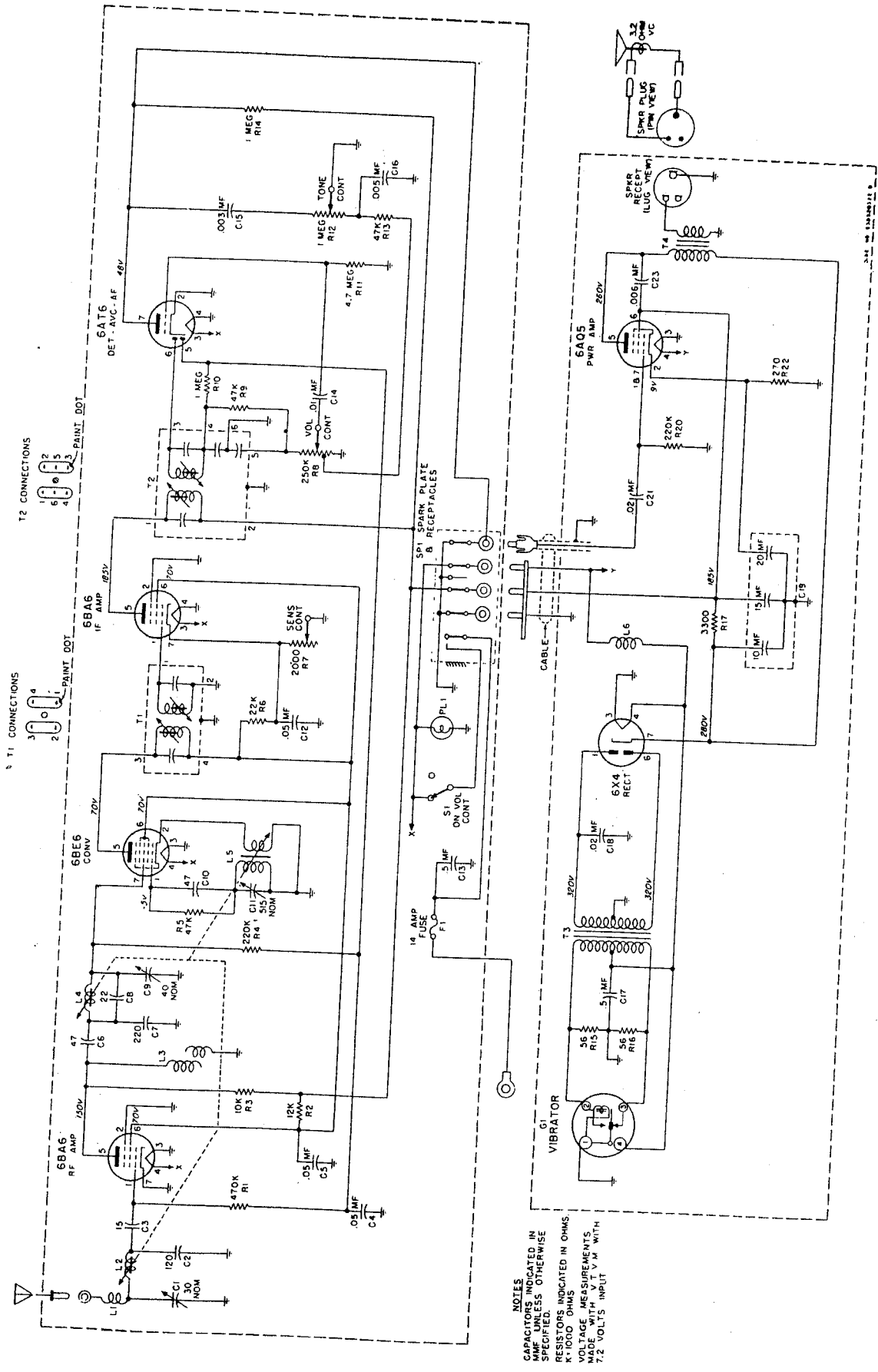


FIGURE 10. SCHEMATIC DIAGRAM

# REPLACEMENT PARTS LIST

NOTE: When ordering parts, specify model number of set in addition to part number and description of part.

Ref. No.	Part Number	Description	List Price	Ref. No.	Part Number	Description	List Price
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## CONTROL UNIT - ELECTRICAL PARTS

### Capacitors

C-1	20B512089	Variable, mica: 5 to 80 mmf.
C-2	21R115729	Ceramic: 120 mmf 10% 500V.
C-3	21R401024	Ceramic: 15 mmf 20% 500V..
C-4	8R13514	Paper: .05 mf 100V.....
C-5	8R14791	Paper: .05 mf 400V.....
C-6	21R115890	Ceramic: 47 mmf 20% 500V..
C-7	21R115905	Ceramic: 220 mmf 20% 500V..
C-8	21R401021	Ceramic: 22 mmf 20% 500V..
C-9	20A512090	Variable, mica: 5 to 80 mmf (on same brkt as C-11).....
C-10	21R115890	Ceramic: 47 mmf 20% 500V..
C-11	20A512090	Variable, mica: 485 to 545 mmf (on same brkt as C-9)..
C-12	8R13514	Paper: .05 mf 100V.....
C-13	8C580845	Paper: .5 mf 100V.....
C-14	8R472754	Paper: .01 mf 100V.....
C-15	8R490437	Paper: .003 mf 400V.....
C-16	8R24962	Paper: .005 mf 100V.....

### Fuse

F-1 65K12894 Fuse, tubular: 14 amp....doz

### Dial Light

I-1 65X10867 Bulb, pilot: 6-8V; .25A;  
bayonet base; #44.....

### Coils

L-1 24K592197 Choke, antenna spark.....  
L-3 24A591317 Coil, IF trap: 265 Kc.....

### Resistors

Note: All resistors are insulated carbon type, unless otherwise specified.

R-1	6R6032	470,000 20% 1/2W.....doz
R-2	6R5766	12,000 10% 2W.....
R-3	6R6430	10,000 10% 1W.....
R-4	6R6015	220,000 20% 1/2W.....doz
R-5	6R6056	47,000 20% 1/2W.....doz
R-6	6R6289	22,000 20% 1W.....
R-7	18K520298	Sensitivity control: 2000...
R-8	12	18B512027 Volume control: 250,000; tone control 1 meg and on-off switch.....
R-9	6R6056	47,000 20% 1/2W.....doz
R-10	6R6004	1 meg 20% 1/2W.....doz
R-11	6R2122	4.7 meg 20% 1/2W.....doz
R-13	6R6056	47,000 20% 1/2W.....doz
R-14	6R6004	1 meg 20% 1/2W.....doz

### Spark Plate

SP-1 64B512024 Spark Plate Assembly.....

### Speaker

LS-1 50C513153 Speaker, PM: 5" x 7" oval;  
3.2 ohm VC.....  
exch

### Transformers

T-1 24B580193  
or 24K512407 IF, 265 Kc: complete.....  
T-2 24K591267  
or 24K512408 Diode, 265 Kc: complete.....

## AUDIO & POWER UNIT - ELECTRICAL PARTS

### Capacitors

C-17 8K17028 Paper: .5 mf 100V.....  
C-18 8K114137 Paper: .02 mf 1000V.....  
C-19 23A485677 Electrolytic: 10-15 mf/350-  
20 mf/25.....  
C-21 8R12699 Paper: .02 mf 400V.....  
C-23 8K71910 Paper: .006 mf 400V.....

### Vibrator

G-1 48B3333 Vibrator, non-sync: 4-pin...

### Coils

L-6 24A472535 Choke, hash.....

### Resistors

Note: All resistors are insulated carbon type, unless otherwise specified.

R-15	6R5614	56 10% 1/2W.....doz
R-16	6R5614	56 10% 1/2W.....doz
R-17	6R118360	3300 20% 2W.....
R-20	6R6015	220,000 20% 1/2W.....doz
R-22	6R6336	270 10% 1W.....

### Transformers

T-3 25K512083 Transformer, power.....  
T-4 25B502330 Transformer, output.....

Part Number	Description
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## CONTROL UNIT - MECHANICAL PARTS

42B485548	Clip, coil can mtg (T-1,2)....doz
49A512023	Disc, planetary drive: plastic....
15D512091	Housing, control knob.....
15C511871	Housing, planetary drive.....
36B511862	Knob, tone control.....
36B511863	Knob, tuning.....
1A520086	Knob, volume control: includes spring.....
482636	Lockwasher, int: 3/8" (volume con- trol mtg).....doz
281376	Nut, hex: 3/8-32 x 1/2 (volume control mtg).....doz
2S114074	Nut, speed (fuse receptacle re- tainer).....doz
2A521667	Nut, speed: Control Unit mtg...doz
1B520291	Planetary Drive Assembly: includes rack drive gear, planetary drive bearing, face plate and drive disc studs.....
1A520293	Planetary Drive Hub Assembly.....
64A512003	Plate, dial scale mtg.....

Part Number	Description
9A912113	Receptacle, antenna contact.....
9A513505	Receptacle, fuse.....
42A520544	Ring, dial scale plate retaining..
34B511859	Scale, dial.....
9K520271	Socket, pilot light: includes brkt
9C511642	Socket, tube: 7-prong; miniature; with dummy lug.....
41A512006	Spring, planetary tension.....doz
4K692188	Washer, "C" (planetary drive disc retaining).....doz
4A513517	Washer, spring bearing.....doz

POWER UNIT - MECHANICAL PARTS

30B520618	Cable, power: includes power plug and audio plug.....
42A4215	Clip, vibrator grounding.....doz
15B520193	Cover, bottom: with bushing.....
15D513524	Housing, power unit.....
28A520617	Plug, connector: 3-pin (power cable).....
28K71775	Plug, insulated: audio plug.....
9A912114	Receptacle, speaker: 3-prong.....
9R119817	Socket, tube: 7-prong; miniature..
9A70208	Socket, vibrator: 4-prong.....

SPEAKER UNIT

4V521241	Cable and Plug Assembly, speaker..
04C513162	Grille, speaker.....
43D513151	Housing, speaker.....
2A912119	Nut, wing: 8-32 (speaker mtg)..doz
28A511760	Plug, speaker: 3-pin (speaker cable).....
3A521615	Screw, machine: 8-32 x 5/8; Phillips oval head (spkr mtg).doz
29K5400	Terminal, pin: large (speaker cable).....doz
29K5419	Terminal, pin: small (speaker cable).....per/c

MOUNTING PARTS & ACCESSORIES

1V520541	Kit, mounting parts: includes the following 19 items: .....
30K511576	"A" lead, radio to ignition switch (Ford FAA-18862-A).....

Part Number	Description
13A512483	Bezel, Control Unit (Ford FAA-18842-A).....
43A513459	Bushing, spacer (Power Unit mtg) (Ford FAA-18997-A).....
8A590751	Capacitor, fuel gauge (Ford 51AF-18871).....
8B511468	Capacitor, generator (Ford FAA-18827-A).....
8B500736	Capacitor, oil gauge (Ford 8M-18826)
8K500934	Capacitor, voltage regulator (Ford 8M-18832).....
65K12894	Fuse, tubular: 14 amp; 32V (Ford 8A-14526).....doz
32A512486	Gasket, bezel (Ford FAA-18994-A)..
4B521732	Lockwasher, int: 5/16" (Power Unit mtg)(Ford 34906-87).....doz
2B521728	Nut, hex: 5/16-18 x 1/2 (Power Unit mtg)(Ford 33797-88).....doz
3B521724	Screw, sheet metal: #8 x 1/2 (hood bonding strap mtg)(Ford 32923-88) .....doz
3A521612	Screw, thread cutting: #10 x 1/2; Phillips head (Control Unit & Speaker Unit mtg)(Ford 52727-S13) .....doz
3A521726	Screw, sheet metal: #14 x 3/8 (ground strip mtg)(Ford 31526-88) .....doz
30B513529	Strap, grounding: dash to engine grounding (Ford FAB-14303-A).....
42A513462	Strap, hood bonding (Ford 51A-18870)
3A513502	Stud, threaded (Power Unit mtg).....doz
30A502396	Suppressor lead, ignition coil (Ford 1H-18811-A).....
4A521734	Washer, flat: 3/4 x .375 x .080 (Power Unit mtg)(Ford 44723-88) .....doz

TUNER PARTS

77D512022	Tuner, Model MT-96: complete..... exch
24B522256	Coil, antenna.....
24B522255	Coil, osc.....
24B522237	Coil, RF.....
46A502505	Core, iron (ant & RF).....
46K522252	Core, iron (osc).....
5A501013	Grommet, core mtg.....doz
41A512060	Spring, rack tension.....

PRICES SUBJECT TO CHANGE WITHOUT NOTICE  
\*Plus Federal Excise Tax At Current Rate