

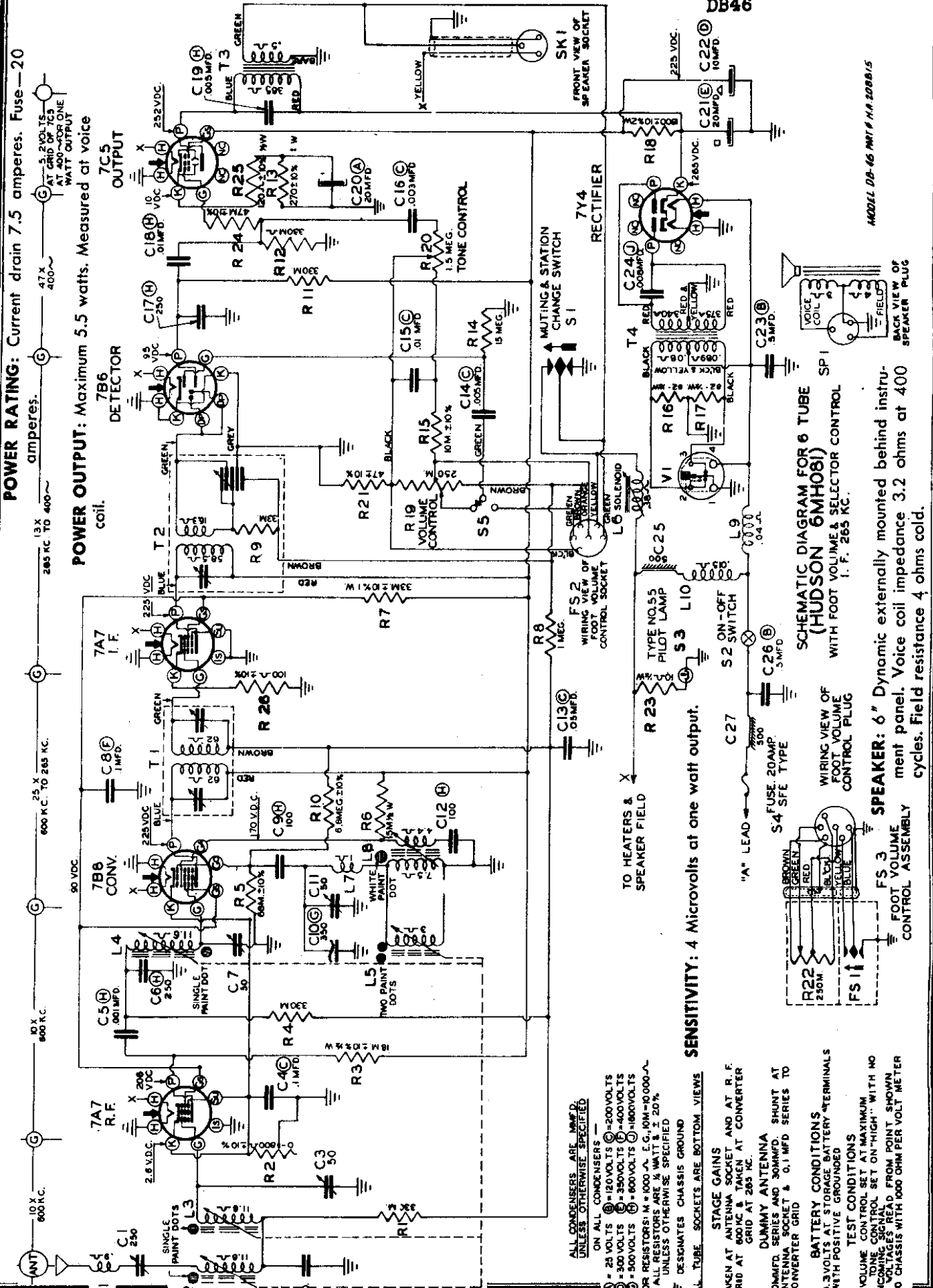
ZENITH RADIO CORP

MODEL 6MH081 Hudson  
DB46

POWER RATING: Current drain 7.5 amperes. Fuse—20 amperes.

POWER OUTPUT: Maximum 5.5 watts. Measured at voice coil.

SENSITIVITY: 4 Microvolts at one watt output.



©John F. Rider

MODEL DB-46 INT'L. NA 2088B/5

SCHEMATIC DIAGRAM FOR 6 TUBE (HUDSON 6MH081) WITH FOOT VOLUME & SELECTOR CONTROL I. F. 265 KC.

SPEAKER: 6" Dynamic externally mounted behind instrument panel. Voice coil impedance 3.2 ohms at 400 cycles. Field resistance 4 ohms cold.

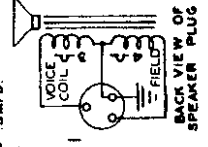
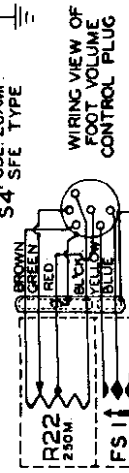
ALL CONDENSERS ARE MFD. UNLESS OTHERWISE SPECIFIED.  
ON ALL CONDENSERS —  
⊖ = 25 VOLTS ⊕ = 120 VOLTS ⊕ = 200 VOLTS  
⊖ = 300 VOLTS ⊕ = 350 VOLTS ⊕ = 400 VOLTS  
⊖ = 500 VOLTS ⊕ = 600 VOLTS ⊕ = 1000 VOLTS  
FOR RESISTORS: W = 1000 Ω E. G. 10M = 10,000 Ω  
ALL RESISTORS ARE 1/2 WATT ± 20%  
UNLESS OTHERWISE SPECIFIED  
⊕ DESIGNATES CHASSIS GROUND  
ALL TUBE SOCKETS ARE BOTTOM VIEWS

STAGE GAINS  
TAKEN AT ANTENNA SOCKET AND AT R. F. GRID AT 600 KC. TAKEN AT CONVERTER GRID AT 265 KC.

DUMMY ANTENNA  
ANTENNA SOCKET & 0.1 MFD SERIES TO CONVERTER GRID

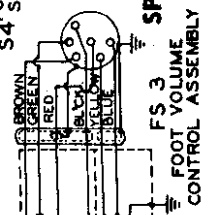
BATTERY CONDITIONS  
6.3 VOLTS AT STORAGE BATTERY TERMINALS WITH POSITIVE GROUND

TEST CONDITIONS  
VOLUME CONTROL SET AT MAXIMUM  
TONE CONTROL SET ON "HIGH" WITH NO INCOMING SIGNAL  
SIGNAL FROM POINT SHOWN TO CHASSIS WITH 1000 OHM PER VOLT METER



WIRING VIEW OF FOOT VOLUME CONTROL PLUG

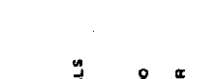
WIRING VIEW OF BACK VIEW OF SPEAKER PLUG



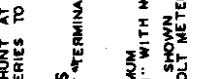
WIRING VIEW OF FOOT VOLUME CONTROL ASSEMBLY



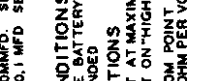
WIRING VIEW OF SPEAKER FIELD



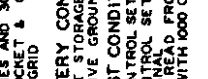
WIRING VIEW OF ON-OFF SWITCH



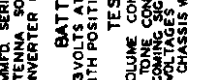
WIRING VIEW OF PILOT LAMP



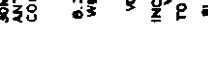
WIRING VIEW OF VOLUME CONTROL



WIRING VIEW OF STATION CHANGE SWITCH



WIRING VIEW OF TONE CONTROL



WIRING VIEW OF DETECTOR



WIRING VIEW OF CONVERTER



WIRING VIEW OF R.F. STAGE

MODEL 6MH081  
Hudson DB46

ZENITH RADIO CORP.

CORE OR COIL REPLACEMENT ONLY

**WARNING:** The following adjustments are to be made ONLY if a core or coil is replaced.

1. Replace coil or core.
2. Set signal generator to 1700 Kc.
3. Connect signal generator leads through dummy illustrated in figure 12 to antenna receptacle on the receiver.
4. Set receiver dial to 1600 KC. (Maximum high frequency end of dial)
5. Screw the core completely out of the antenna coil, the R.F. Coil, the converter coil, and the oscillator coil.
6. Adjust oscillator trimmer C-11 (Fig. 11) at 1700 Kc.
7. Adjust converter trimmer C-7, R.F. trimmer C-3, and antenna trimmer C-1 (Fig. 10 and 11) for maximum output reading.
8. Replace cores to their approximate original positions.
9. Set generator dial and receiver dial to 1200 Kc.
10. Adjust oscillator core (Fig. 10) to scale at 1200 Kc.
11. Adjust the antenna core, R.F. core, and converter core (Fig. 10 and 11), for maximum output reading.
12. Set signal generator to 600 Kc.

13. "Rock in" Shunt oscillator coil (Fig. 10) for maximum output reading. (This should only be done as a last resort.) This is the same as rocking in the paddler condenser on a ganged condenser receiver.
14. Check receiver at 1200 Kc. for calibration and gain. If receiver is off scale or weak, repeat operations 9, 10 and 11.
15. After alignment is complete, the maximum high frequency tuning range should be checked. If the range is greater or less than 1605 Kc. the mechanical stop for the tuner cross arm should be bent to limit the frequency coverage to 1605 Kc.

After all adjustments have been made, glue core screws with speaker cement.

**IMPORTANT:** After reinstalling the receiver in the car, allow it to operate for approximately 15 minutes to reach normal operating temperature. Check the antenna trimmer alignment on a weak station at approximately 1200 Kc. Extend antenna to maximum before adjusting the antenna trimmer.

ALIGNMENT

Maximum performance depends on accurate alignment of the receiver; so follow these instructions carefully.

**CAUTION:** Make all adjustments on the receiver with volume control turned full on and foot volume control cable plugged into its socket. Reduce signal intensity as much as possible at signal generator. Connect output meter across voice coil.

I.F. ALIGNMENT PROCEDURE

1. Remove top and bottom covers from receiver.
2. Set signal generator to 265 Kc.
3. Apply signal from generator through a .1 Mfd. dummy to 78B converter grid. (Pin No. 6 on socket.)
4. Adjust I.F. trimmers A, B, C and D (Fig. 10), in the order named for maximum output. Repeat the operation to assure accurate alignment.

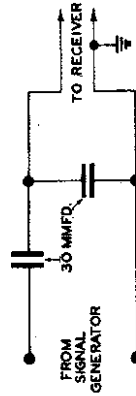


Figure 12. Dummy Antenna

Figure 12 shows the schematic of a recommended dummy antenna closely resembling actual antenna capacity to be used when aligning the R.F. section of the receiver.

R.F. AND OSCILLATOR ALIGNMENT

1. Connect signal generator leads through dummy illustrated in figure 12 to antenna lead in socket on receiver.
2. Set signal generator to 535 Kc.
3. Place set in manual tuning position and set dial to 535 Kc.
4. Adjust oscillator trimmer C-11 (Fig. 11) for maximum response.
5. Set signal generator to 1200 Kc.
6. Tune set to 1200 Kc.
7. Adjust converter trimmer C-7 (Fig. 11) and R.F. trimmer C-3 (Fig. 10) for maximum response.
8. If dial calibration is off after making above adjustments, a correction can be made by loosening dial scale mounting screws and sliding scale to desired position.

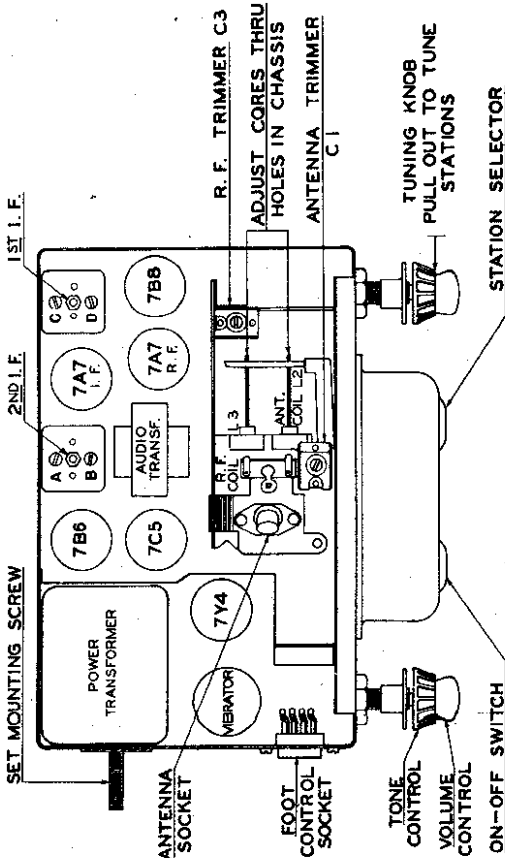


Fig. 10. Top View of Chassis

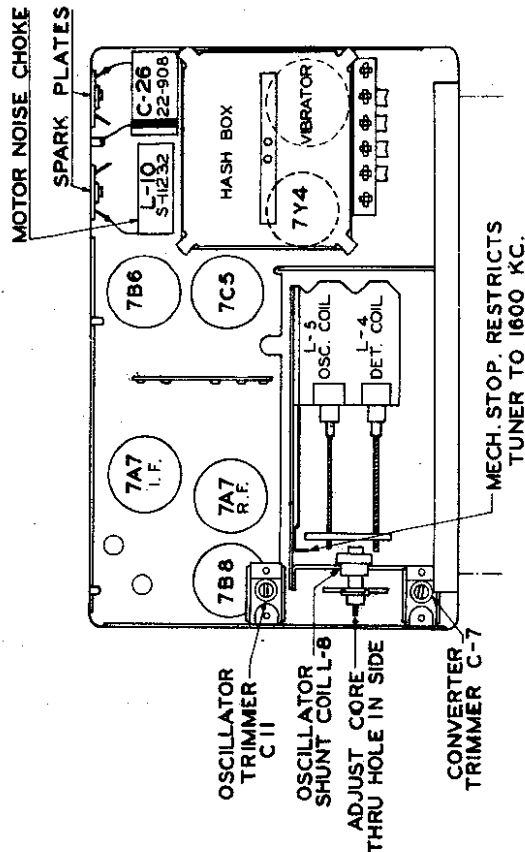


Fig. 11. Bottom View of Chassis

## ZENITH RADIO CORP.

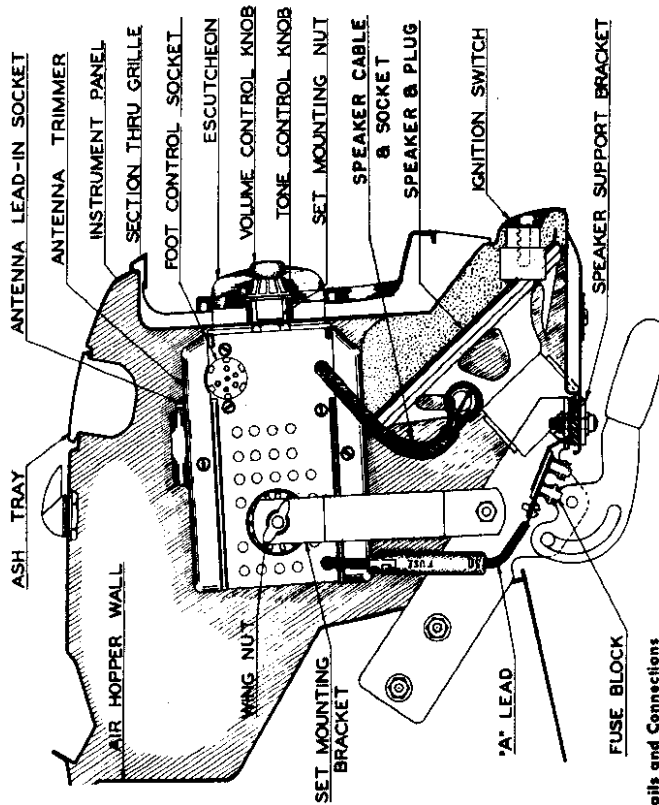
MODEL 6MH081  
Hudson DB46

Fig. 2. Mounting Details and Connections

## RADIO INSTALLATION INSTRUCTIONS

1. Install the antenna. Complete instructions are packed with each antenna kit.
2. Remove the decorative plate, in the center of the grille, covering the radio opening.
3. Remove the floor mat around the clutch and brake pedals. Place the foot control over the holes provided in the floor board. Fasten it with the three No. 8 R.H. self-tapping screws furnished in the installation kit (Fig. 3).
4. Dress the foot control lead to the left of the clutch pedal and up behind the fire wall pad.
5. Lift the cap from the foot control. Replace the floor mat and cut a hole for the foot control button. To replace the foot control cap, press it firmly and turn until the notches in the cap slip into the flanges on the foot control button.
6. Remove accessory switch bracket.
7. Plug the foot control cable into the socket provided on the left end of the receiver. With this end of the receiver down and the control shafts to the right, push the receiver up between the instrument panel and the air hopper as far as it will go. Turn the radio clockwise until the knob shafts point downward. Lift the front of the receiver up until the shafts slide through the slots provided below the shaft openings in the instrument panel. Bring the receiver forward so that the knob shafts protrude through the shaft openings.
8. Fit the knob shaft bushing nuts on the shafts and tighten as much as possible with the fingers. Place the tips of long nose pliers in the holes in the nuts and tighten securely.
9. Attach set mounting bracket by fastening one end to the side of the receiver case with the wing nut. Fasten the other end of the radio mounting bracket to the coil ventilator handle bracket with  $\frac{1}{4}$ " x  $\frac{3}{4}$ " M.S., flat washer, and nut. (Fig. 2.)
10. Remove cardboard protector from speaker unit and fasten speaker and bracket assembly in place with two  $\frac{1}{4}$ " x  $\frac{3}{4}$ " M.S. flat washers, two lock washers, and two nuts provided. (Fig. 2.) Plug the speaker cable into the socket provided on the speaker frame.
11. Fasten the controls in place as shown in figure 1.
- NOTE: Tuning knob must be placed 3 1/6" away from the instrument panel in order to rotate freely in the automatic position.
12. Fasten the accessory switch bracket back in place.
13. Remove the ash tray assembly and plug the antenna lead into the socket provided on the top of the receiver.
14. Fasten the "A" lead to the fuse block as indicated in figure 2.
15. Turn the receiver on and allow it to operate for approximately fifteen minutes in order for it to reach normal operating temperature. Tune in a weak station near 1200 Kc. Reach through the ash tray opening with a small screw driver and adjust the antenna trimmer, located on the top of the receiver, for maximum volume. (Fig. 2.) Replace ash tray.

## MANUAL TUNING

1. Press the automatic tuning push button on the left side beneath automatic indicator window several times or until the letter "M" appears on the automatic indicator.
2. Pull manual tuning (right hand) control knob outward and turn to tune in desired stations. Tune to exact frequency for the best tone quality.

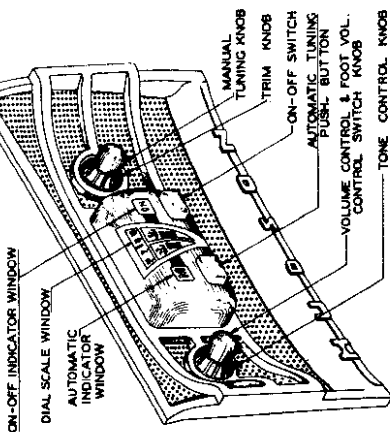


Fig. 1. Operating Controls.

## AUTOMATIC TUNING

There are five automatic tuning positions which may be adjusted to five desired stations. If these positions have not been previously adjusted, proceed as follows:

1. Press the automatic tuning push button (on the left side) until Number 1 appears in the automatic indicator window.
2. Pull the manual tuning knob OUTWARD to engage the automatic mechanism.
3. Select the station desired and tune to its frequency by turning the tuning knob. Tune very carefully for clearest reception. CAUTION: DO NOT ATTEMPT TO FORCE TUNING KNOB IN. Knob will return to the "IN" position when the automatic tuning push-button is pressed.
4. Press the automatic station selector push button, pull manual tuning knob outward, and tune in station desired for No. 2 position. Use same procedure for positions No. 3, 4 and 5.

When the five automatic positions have been adjusted to the five desired stations as instructed, it is only necessary to press the AUTOMATIC button to return to MANUAL tuning, or to any one of the stations selected on the automatic.

## FOOT CONTROL

The Foot Control provides a convenient means of selecting stations, controlling the volume, and muting the set without taking the hands off the steering wheel or the eyes from the road. Its function is identical to that of the station selector push button and the volume control knob combined. The foot control requires no set up or other adjustment. Press the foot control button all the way down to change stations. Press lightly to silence radio during conversation. Turn the knob with the shoe tip to adjust the volume to any desired point. When using the foot volume control feature turn the panel volume control fully to the left, or until it clicks.

**INTERFERENCE ELIMINATION**

**IMPORTANT:** Use the utmost care in the following operations to insure freedom from motor noise. Be sure that good ground contacts are made between the interference condensers and the car body. If necessary, clean away paint or dirt with emery paper. Tighten all nuts and bolts securely.

1. Remove the top mounting screw of the horn relay near the voltage regulator and under this screw mount the condenser No. 22-1537. Connect the lead to the voltage regulator battery terminal. (Fig. 4.)

2. Install suppressor in center hole of distributor cap. Place high tension lead in the top of suppressor. Be sure the suppressor and the lead are fastened securely. (Fig. 5.)

3. On the six cylinder car, remove the bolt, above the ignition coil, from the firewall. Mount the condenser No. 22-1537 under this bolt. Connect the lead to the coil terminal as shown in figure 6A.

On the eight cylinder car, remove the bottom screw from the ignition coil mounting bracket. Install the condenser No. 22-1537 under the screw. Connect the lead to the coil terminal as shown in figure 6B.

4. Loosen the upper rear cap screw of the engine water jacket plate. **CAUTION: Do not REMOVE cap screw.** Slide the slotted bracket of the condenser No. 22-1260 under the head of this screw. Tighten the screw.

Attach the condenser lead to the water temperature element in the head. (Fig. 7A.)

5. Remove the tape from the hole (located near the left rear cylinder head nut) in the dash. Fasten the flat ground strip to this hole with a sheet metal screw and lock washer. On the six cylinder car, place the other end of the strip on top of the regular stud nut, and fasten it in place with the special nut furnished in the installation kit. (Fig. 7A.) On the eight cylinder cars, bolt the other end of the strip under the regular stud nut. (Fig. 7B.)

6. Install the motor hood bond spring No. 80-145 as shown in Figure 8. Fasten with No. 8 sheet metal screw. Part No. 112-365.

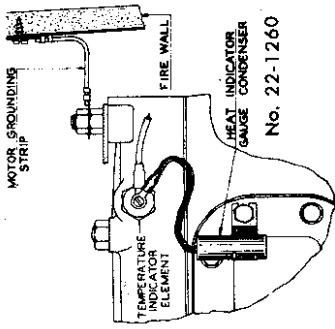


Fig. 7A.

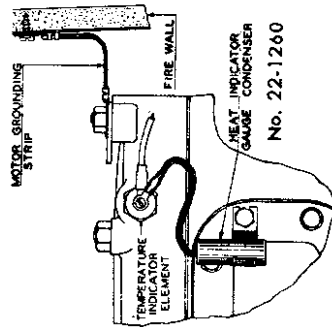


Fig. 7B.

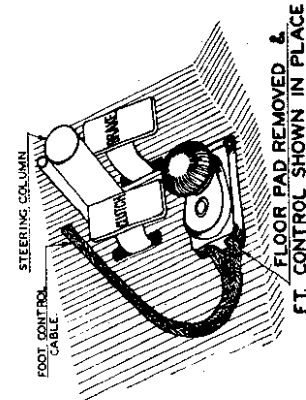


Fig. 3.

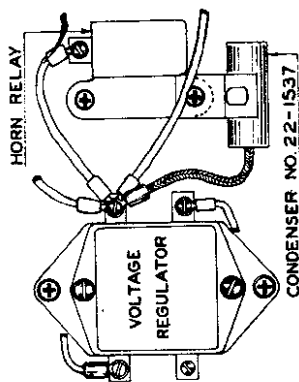


Fig. 4.

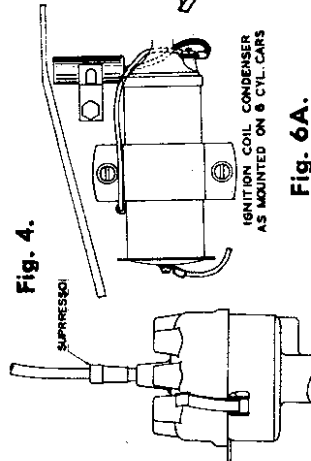


Fig. 6A.

Fig. 5.

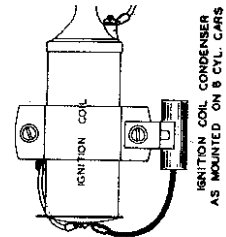


Fig. 6B.

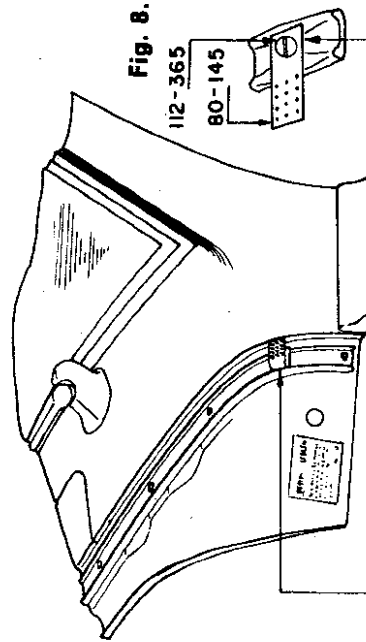


Fig. 8.

PULL OUT PRESENT DRIVE SCREW & PLACE BONDING STRIP OVER HOLE WITH PERFORATIONS FACING DOWN. PUT IN SHEET METAL SCREW. BEND BONDING STRIP OVER AS SHOWN AFTER TIGHTENING SCREW

ZENITH RADIO CORP.

MODEL 6MH081  
Hudson DE46

PARTS LIST (Continued)

PARTS LIST

1946 RADIO RECEIVER KIT\*  
Model DB 46 (Part Number 208815)

Items included in kit are:

- Radio receiver
- Mounting bracket, screws, lockwashers, knobs
- Speaker and bracket assembly
- Foot volume control and switch assembly
- Distributor suppressor
- Temperature gauge condenser
- Ignition coil and generator condenser
- Motor hood bonding spring
- Motor bond strap
- Sheet metal screw
- Nut for 6 cyl. cars
- Lockwasher

RADIO ANTENNA KITS\*

Part No. 209558—66" Telescopic Antenna including all installation parts.

Part No. 209762—92" Telescopic Antenna including all installation parts.

Part No. 205451—Vacuum Operated Antenna including all installation parts.

(NOTE: Kits marked \* are not available from the radio manufacturer. See your Hudson dealer.)

COILS AND CHOKES

Diag. No.	Zenith Part No.	Description
L9	204890	Main hash choke
T1	209569	1st I.F. transformer
T2	209570	2nd I.F. transformer
L1	209741	Antenna motor noise choke assembly
L7	209568	Oscillator series coil assembly
L8	209576	Oscillator shunt coil assembly
L10	209571	Motor noise choke coil assembly
L5	212053*	Oscillator tuning coil assembly
L2	212060*	Antenna tuning coil assembly
L3	212060*	R.F. tuning coil assembly
L4	212060*	Detector tuning coil assembly

Note: In ordering coils marked (\*), be sure to give color code information.

CONDENSERS

Diag. No.	Zenith Part No.	Description
C 9	22-162	204900 100 mfd.
C 8	22-170	204901 .1 mfd.
C 7	22-182	204902 250 mfd.
C 4	22-190	209577 .1 mfd.
C 19	22-250	204904 .05 mfd.
C 13	22-838	204905 .005 mfd.
C 14	22-906	204906 .005 mfd.

Diag. No.	Zenith Part No.	Description	Hudson Part No.
C23	22-908	.5 mfd.	204907
C26	22-1076	Dual spark plate	204909
C27	22-1136	250 mfd.	209585
C 6	22-1169	.01 mfd.	209584
C 5	22-1170	.01 mfd.	204910
C 8	22-1180	.003 mfd.	209587
C 2	22-1244	.004 mfd.	204915
C 3	22-1376	R.F. trimmer	209583
C 7	22-1377	Detector trimmer	209582
C11	22-1378	Oscillator trimmer	209581
C20	22-1387	Dry electrolytic - 20 mfd. - 25 V. x 10 mfd. - 300 V. x 20 mfd. - 350 V. x 1600 V.	209578
C21	22-1448	.008 mfd.	209579
C24	22-1462	Antenna trimmer	209580
C 1	22-1466	.01 mfd.	209754
C15	22-1478	350 mfd. compensator	209919

RESISTORS

Diag. No.	Zenith Part No.	Description	Hudson Part No.
R19	63-1334	Vol. control and SW. tone control	209672
R20	63-1368	1800 ohm 2 watt W.W.	209920
S 5	63-1379	Sensitivity control. 0-800 ohm	207877
R 8	63-1390	1 megohm 1/4 watt	209922
R 1	63-1392	330M ohm 1/4 watt	209923
R 4	63-1393	47 ohm 1/4 watt	209924
R11	63-1394	10M ohm 1/4 watt	209925
R21	63-1396	68M ohm 1/4 watt	209926
R 5	63-1398	33M ohm 1/4 watt	209928
R 7	63-1399	82 ohm 1/4 watt	209929
R16	63-1400	1.5 megohm 1/4 watt	209930
R14	63-1401	1.5M ohm 1/4 watt	209931
R 6	63-1401	1.5M ohm 1/4 watt W.W.	209921
R13	63-1409	120 ohm 1/4 watt W.W.	208649
R25	63-1410	120 ohm 1/4 watt W.W.	208649
R26	63-1414	100 ohm 1/4 watt	208709
R10	63-1416	6.8 megohm 1/4 watt	207939
R24	63-1417	47000 ohms 1/4 watt	207940
R23	63-1419	10 ohm 1/4 watt W.W.	208591
R3	63-1411	18000 ohm 1/4 watt	208000

Note: When ordering cone and voice coil assembly marked \*, be sure to give manufacturer's code letter.

Diag. No.	Zenith Part No.	Description	Hudson Part No.
S1	202-420	Installation instruction book	209749
	S11269	Hand selector and muting switch assembly	209566
FS3	S11310	Antenna socket, bracket & terminal assembly	209934
	S11758	Foot switch, vol. control & cable assembly	208812

SPEAKER AND MOUNTING COMPONENTS

Diag. No.	Zenith Part No.	Description	Hudson Part No.
SP1	12-937	Speaker support bracket	204020
	49-538	6" dynamic speaker	208826
	54-30	No. 8 3/2 x 5/16 x 7/64 hex nut	170567
	57-945	Speaker cover plate	204022
	114-88	No. 8 3/2 x 1 1/2 hex hd. N.S.	205287
	114-167	No. 10/32 x 5/16 hex acorn hd. N.S.	205288
	196-53	Rubber speaker gasket	204024
	208-538*	Cone & voice coil assem.	209751

INSTALLATION PARTS AND KNOBS

Diag. No.	Zenith Part No.	Description	Hudson Part No.
S3	S11321	Installation kit complete	209753
	12-938	Set mounting bracket	204021
	149-44*	Temperature gauge cond.	152021
	188-45	Generator and ignition coil condenser	208592
L6	46-459	Tone control knob	205293
	54-157	1/4-20 x 7/16 x 3/16" hex nut	70874
	54-173	Set mounting nut	205283
	54-174	1/4-20 wing nut	205289
	63-1252	Distributor suppressor	205281
	80-145	Motor hood bond spring	205282
	80-232	Knob retaining spring	209752
	112-310	Foot Sw. mtg. N.S.	170487
	112-365	No. 8 x 1/2" B.H.S.H. screw	170304
	114-168	1/4-20 x 3/4 hex hd. N.S.	70872
	S12271	Tuning control & trim. knob assem. (46-550 & 584)	209936
	S12272	Volume control knob and spring assem. (46-549)	209937

Note: In ordering Adjusting Spring and Core marked (\*), be sure to give color code information.

Diag. No.	Zenith Part No.	Description	Hudson Part No.
	93-577	.062 x 17/64 x 3/4 steel washer	12857
	83-986	Motor bond strap	204481
	112-361	No. 8 self tapping screw	71707
	93-575	Lock washer	170395
	54-188	Hex nut (for 6 cyl. cars only)	170859

DIAL AND TUNING MECHANISM ASSEMBLY

Diag. No.	Zenith Part No.	Description	Hudson Part No.
	26-337	Dial scale (manual tuning)	209682
	34-132	Indexing disc	209691
	34-133	Ratchet gear	209692
	34-135	Volume control gear	209789
	46-581	Selector knob (2 used)	209553
	57-11061	Escutcheon	209560
	57-1151	Name plate	209694
	59-158	Dial pointer	204040
	80-329	Gear indexing spring	209695
	80-331	Cross arm return spring	209681
	80-332	Cam lever spring	209696
	80-336	Ratchet gear return spring	209697
	80-340	Lever spring	209698
	80-341	Kick-off spring	209699
	80-342	Tuning shaft spring	209700
	80-343	Solenoid switch spring	209701
	80-344	Solenoid switch contact spring	209702
	80-425	Knob return spring	209703
	100-31	Dial light bulb	71550
	209799	Adjusting spring & core	209799
	188-45	Turret screw lock ring	209705
	S10826	Solenoid end plug and bracket assembly	209706
	S10829	Solenoid and terminal assembly	209567
	S10831	Ratchet and bracket	209707
	S10836	Cross arm assembly	209708
	S11052	Tuning shaft and gear assembly	204025
	S11082	Turret assembly	209709
	S11313	Dial drum and bracket assembly	209738
	S11494	Mounting plate and lever assembly	209739
	S11976	Dial light socket and wire assembly	209740