

RADIO

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DIVISION I

SPECIFICATIONS AND ADJUSTMENTS

129-1 ANTENNA TRIMMER ADJUSTMENT

An antenna trimmer adjustment is provided for matching the antenna coil in the receiver to the car antenna. This adjustment must always be made after installation of receiver and antenna, or after any repairs to these units. This adjustment should also be performed whenever the AM radio reception is unsatisfactory.

This adjustment applies only to AM radios or to the AM portion of AM-FM radios. Trimming for FM reception is accomplished automatically whenever the antenna is raised to 31 inches.

1. Position antenna at a height of 31 inches.
2. Tune radio to a weak station near 1400 KHZ (K.C.) which can barely be heard with volume turned fully on.
3. Remove right inner and outer knobs.
4. On cars having a rear speaker, it is necessary to fabricate a jumper wire and insert it into center and an outside hole.

NOTE: There are three small holes (electrical connecting points) in receiver which are located directly behind right knob. When the car is equipped with a rear speaker, the right larger knob (rear speaker control) has three prongs which interconnect these points. When the rear speaker control is removed to gain access to the trimmer screw behind it, two of the holes (the center and an outside hole) must be interconnected by a short piece of jumper wire to channel sound to a speaker.

It is generally desirable to trim the radio while using the front speaker.

5. Adjust trimmer screw until maximum volume is achieved.
6. Reinstall both right knobs.

129-2 RADIO PUSH BUTTON ADJUSTMENT

1. Turn on the radio.
2. Pull buttons outward. It is desirable to set up the push buttons in logical sequence. For example --lowest frequency on first buttons, next higher frequency station on second button, etc.
3. Carefully tune in the desired station manually, then push the button all the way in.
4. Move dial pointer away from the selected station and push the button to make certain the station will be properly tuned in.
5. Turn tuning knob back and forth to make certain that best tuning is obtained with the push button. If best tuning is not obtained, repeat Steps 2, 3, and 4.

NOTE: On push button selection, if the program sounds shrill or distorted, it is probably caused by improper tuning and can be corrected by adjusting the tuning knob slightly. Since the low notes are more affected by tuning than the high ones, it is preferable to tune the receiver to a point where the low notes are heard best, and high notes are clear but not shrill. This point may be most readily found by listening to the background noise and tuning for the lowest volume and pitch of this noise. Turning the control knob back and forth until the station is almost lost on either side will enable the operator to hear the difference in reception and select the intermediate position giving best results.

DIVISION II

DESCRIPTION AND OPERATION

129-3 GENERAL DESCRIPTION

The radio system for 1969 Buicks consists of three components: (1) a receiver mounted in the center of the instrument panel, (2) a separate, front mounted speaker and (3) an antenna mounted on either the front or rear fender. Five different receivers are used on 1969 Buicks. On 43-44000 series cars, two types of receivers are available - a push button 2-1/2 watt AM receiver and an AM-FM receiver. On 45-46-48-49000 series cars, three types of receivers are available - a Sonomatic push button 5 Watt receiver, an AM-FM receiver, and an AM-FM stereo receiver. When an optional rear seat speaker is provided, the right larger knob controls the sound balance between front and rear speakers. When the control is rotated fully clockwise, the radio sound is channeled through the rear speaker only. Full counter clockwise rotation of the control sends the sound through the front speaker only, and midway positioning of control sends sound through both speakers.

The radio has a current draw of 1.3 amps at 12 VDC. All speakers have an impedance of 10 ohms. When replacing a speaker, the replacement speaker should have the same impedance for satisfactory results.

129-4 RADIO NOISE INTERFERENCE SUPPRESSORS

Two noise suppressor capacitors are used to eliminate radio interference (see Figure 129-1).

The capacitors are exterior mounted, one on the voltage regulator and the other is pressed into the end bell of the Delcotron. The voltage regulator and delcotron capacitors are both

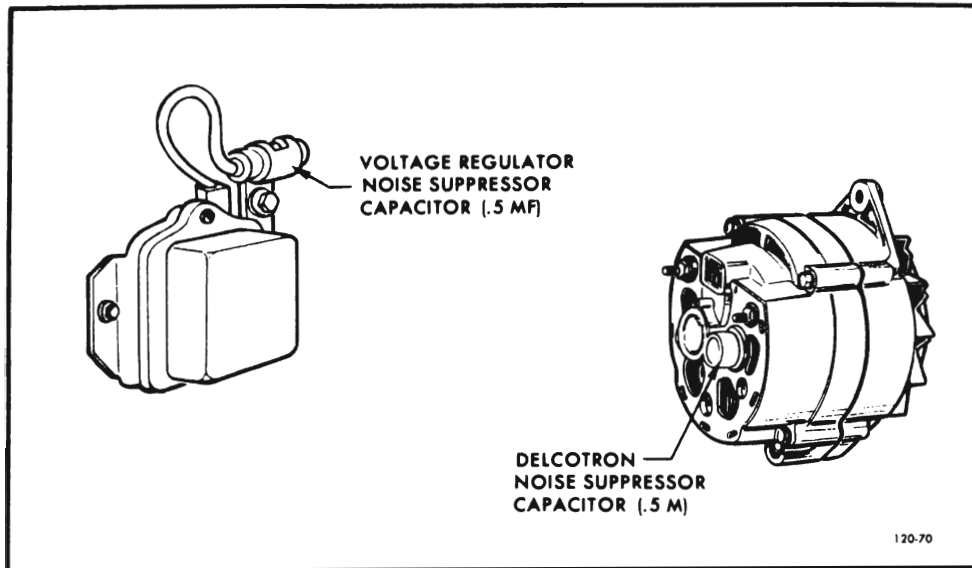


Figure 129-1 - Installation of Noise Suppressors

rated at 0.5 MF. All models have resistor spark plugs, .075" rotor gap, and spark plug wires with an approximate resistance of 2000 ohms per foot.

129-5 AM-FM RADIO

This radio is identical to the Sonomatic radio as far as the operation of the on-off and volume control, tone control, manual tuning control and push buttons are concerned. The AM-FM selector bar is located directly above the dial face. Movement of the bar to the left exposes the letters "FM" and switches the radio to FM operation. Movement of the bar to the right provides AM radio operation. An automatic frequency control circuit is incorporated in the radio and acts to automatically adjust the receiver to select the strongest of the incoming signals if the tuner is adjusted to a point where more than one incoming signal is being received. In general, FM operation will provide greater reception fidelity and freedom from static and other atmospheric disturbances. The FM signal is very susceptible to interference due to tall buildings, hills, etc. In these cases, reception may be partially or totally blanked out until the car has moved around or away from the interfering

object. In fringe areas (beyond 25 miles from the station) where FM radio reception is weak, the station sound may flutter or vary up and down and interference from passing cars may be picked up by your FM radio. If this happens, the receiver should be readjusted to a stronger station.

129-6 AM-FM STEREO RADIO

A stereo system is offered on 45-46-48-49000 series cars and includes a special AM-FM receiver, a separate second amplifier (or stereo adaptor), and a rear speaker. The radio is designed to receive and reproduce the dual FM stereo signal as well as monaural AM-FM signals. Operation of the controls is identical to previous AM-FM receivers.

DIVISION III

SERVICE PROCEDURES

129-7 REMOVAL & INSTALLATION OF RADIO PARTS - SPECIAL & SKYLARK

a. R. & I. Radio

1. Remove radio knobs and es-cutcheons. Remove two 5/8" hex

nuts and two screws from radio filler plate and remove plate.

2. Remove ash receiver assembly.

3. If A/C, remove two screws at lower center A/C duct and remove duct.

4. Remove radio bracket to radio screw and two bracket screws at instrument panel and remove bracket.

5. Remove two instrument panel attaching nuts at radio face.

6. Disconnect radio wiring and remove radio downward.

7. Install radio by reversing above steps.

b. R. & I. Front Radio Speaker

1. Remove radio knobs and es-cutcheons. Remove two 5/8 hex nuts and two screws from radio filler plate and remove plate. (Do not remove radio).

2. Unplug speaker connector from radio.

3. Remove screw at speaker bracket and remove speaker through radio filler plate opening.

4. Install speaker by reversing above steps.

NOTE: If AC, remove radio as explained in subparagraph a. Remove instrument panel upper cover as explained in subparagraph a and remove two screws at upper center AC duct and remove duct.

129-8 REMOVAL & INSTALLATION OF RADIO PARTS -LE SABRE, WILDCAT & ELECTRA

a. R. & I. Radio

1. If AC, remove two screws at center AC distribution duct and remove duct.

2. Remove right instrument trim

panel and remove screw in bottom of radio.

3. Remove radio knobs and escutcheons. Remove two 5/8 hex nuts.

4. Unplug antenna lead from radio receiver.

5. Unplug three wire and single wire connector from radio receiver.

6. Remove radio downward.

7. Install radio by reversing above steps.

b. R. & I. Front Radio Speaker

1. Remove eight screws from instrument panel compartment body assembly and remove assembly.

2. If AC, remove two screws at center AC distribution duct and remove duct.

3. Unplug three wire and single wire connector from radio receiver.

4. Remove one 7/16 hex head retaining screw from speaker and slide radio speaker to the right and remove.

5. Install radio speaker by reversing above steps.

129-9 REMOVAL & INSTALLATION OF RADIO PARTS - RIVIERA

b. R. & I. Radio

1. Remove four screws at ash receiver assembly and remove assembly.

2. Remove radio knobs and escutcheons. Remove two 5/8 hex nuts.

3. Unplug antenna lead from radio receiver.

4. Unplug three wire and single wire connector from radio receiver.

5. Remove radio downward through ash receiver opening.

6. Install radio by reversing above steps.

b. R. & I. Front Radio Speaker

1. Remove radio (subparagraph a.)

2. Remove four 3/8 hex head retaining screws from speaker and remove speaker.

3. Install radio speaker by reversing above steps.

NOTE: If car is equipped with air conditioning, remove eight screws from instrument panel compartment body assembly and remove assembly. Remove four 3/8 hex nuts at right underside of dash assembly and four Philips screws at housing assembly. Pull instrument panel upper cover rearward to remove. Remove two screws at center AC duct and remove duct.

129-10 DISASSEMBLY, ADJUSTMENT & REASSEMBLY OF ELECTRIC ANTENNA

a. Disassembly

IMPORTANT: Before work is started mark (index) each part so reassembly is exactly as disassembly.

1. Remove the 3 screws holding the body and upper insulator assembly to support tube (see Figure 129-16).

2. While applying a back and forth motion, carefully pull the body upper insulator assembly out of the support tube and slide it over the 0.40 inch diameter section of the mast.

3. Remove two (2) screws holding male lead-in connector and apply heat to center pin of connector and remove.

4. Remove the 3 screws which hold the support tube to antenna drive.

5. Hold antenna drive in one hand, grasp support tube in other hand and pull with a rocking motion until the support tube is removed.

6. While still holding antenna drive in one hand, now grasp the mast with the other hand and pull with a rocking motion until the insulator bushing and mast are free from the tubular fitting of antenna drive (see Figure 129-17).

7. Apply 12 volts D.C. to the black wire of the antenna drive until the entire length of nylon reed has been expelled, and remove mast. Pull on the mast to keep the nylon taut.

NOTE: If the antenna drive is inoperative, it will be necessary to manually remove the nylon reed. Place the assembly in a vise so that the normal plane of the nylon reed is parallel with the floor. Using both hands, pull on the 0.30 inch diameter section of the mast until the reed is completely removed.

8. Remove burrs from inside of screw holes then using a wire hook or long nose pliers, remove bottom insulator and water seal washer from tubular fitting of antenna drive if necessary.

b. Adjustment - All Models Except Riviera

NOTE: Before adjustment is made, check and clean mast assembly. Adjustment of the antenna can be made without removing from car on all models except Riviera.

2. Remove the drive cover. **NOTE: Some models will require loosening the screws on the support assembly so motor and drive can be turned to allow removal of drive cover.**

3. Adjust mast tip approximately 6 inches from the extreme down position.

3. Connect one end of a wire securely to the mast just below the tip and the other end to a 25 lb. capacity spring scale. Secure the spring scale to a solid overhead object so that the center line of the scale is in line with that of the mast assembly.

4. Engage motor to the point of maximum pull before the clutch starts to slip. If the maximum pull is less than 15 lbs., turn the self locking

RADIO ANTENNA TRIMMER SCREW ADJUSTMENT
 ADJUSTMENT MUST BE MADE WITH ANTENNA MAST
 EXTENDED THIRTY ONE (31) INCHES ABOVE FLIDOFF.
 TURN RADIO TO A STATION AT OR NEAR 1400 KHZ (KC)
 THAT CAN BARELY BE HEARD WITH VOLUME FULL ON.
 (A HIGHLY ADJUSTED SIGNAL GENERATOR MAY BE
 SUBSTITUTED). INSERT A SCREWDRIVER THROUGH THE
 OPENING IN THE RECEIVER AND SLOWLY TURN THE
 TRIMMER SCREW BACK AND FORTH UNTIL THE POSITION
 IS FOUND THAT GIVES MAXIMUM VOLUME. ADJUST
 TRIMMER ON AM/FM SETS IN AM POSITION ONLY.

NOTE-
 MAKE ANTENNA TRIMMER ADJUSTMENT PRIOR
 TO REMOVING JUMPER ON REAR SPEAKER INSTALLATIONS.

JUMPER WILL BE ON ALL SETS.
 FOR INSTALLATION OF FADER
 CONTROL, REMOVE WITH TWEEZERS
 OR SMALL NEEDLE NOSE PLIERS.

CAUTION

DO NOT OPERATE RADIO WITHOUT
 JUMPER OR FADER IN POSITION.

129-23A

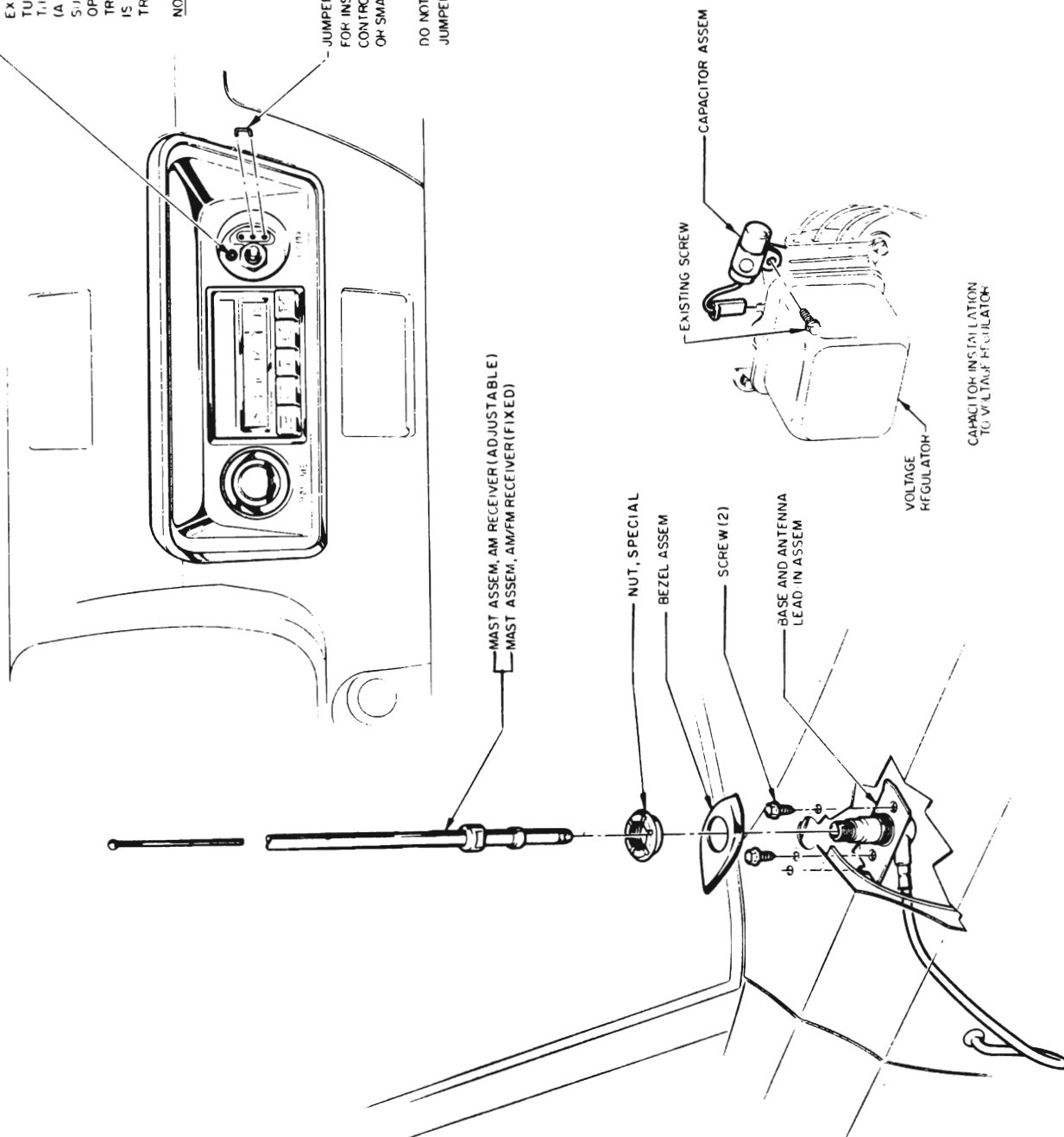
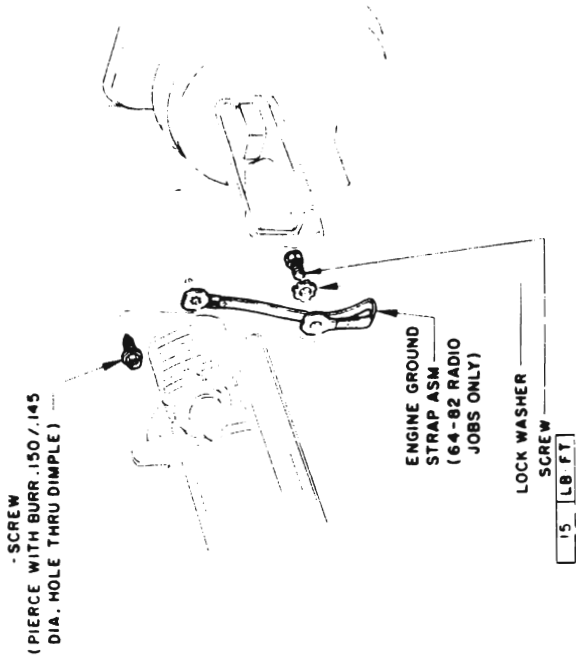


Figure 129-2 Antenna and
 Capacitor Installation - 43-44000
 Series



INSTALLATION OF ENGINE GROUND STRAP

129-20A

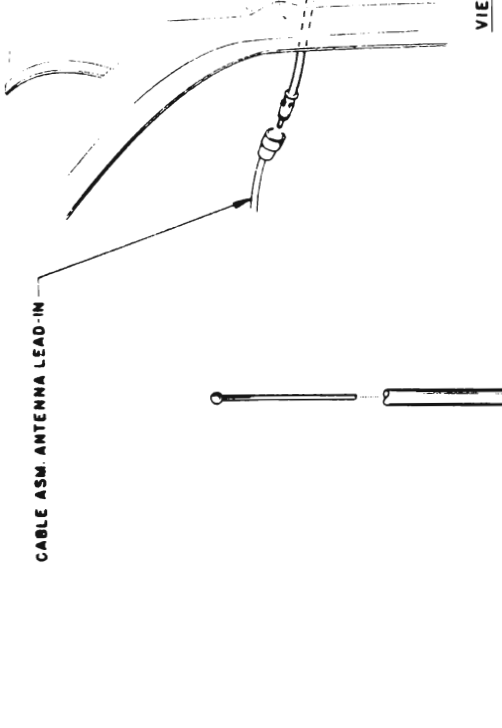
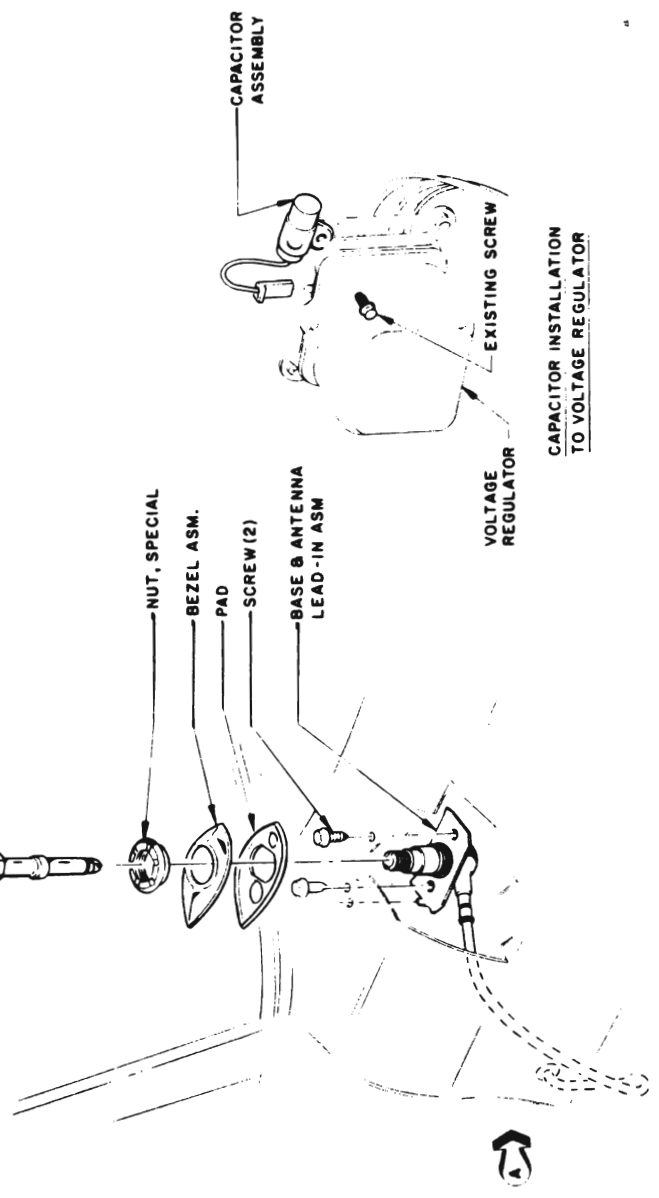
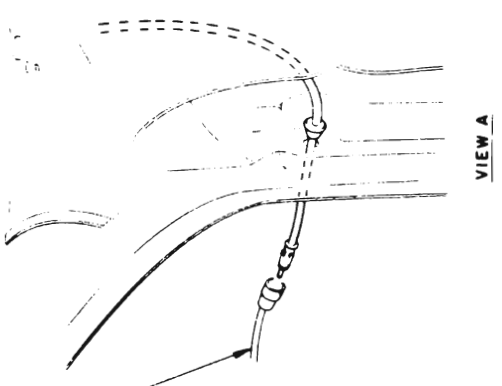
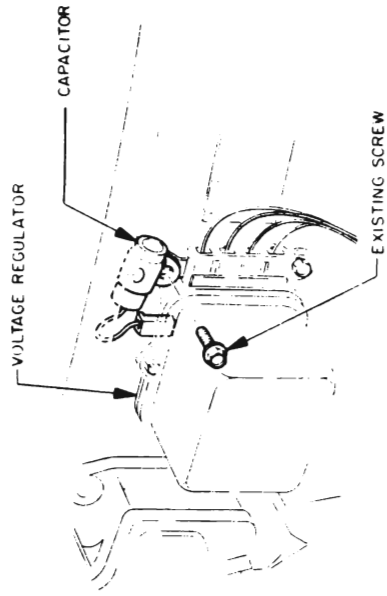


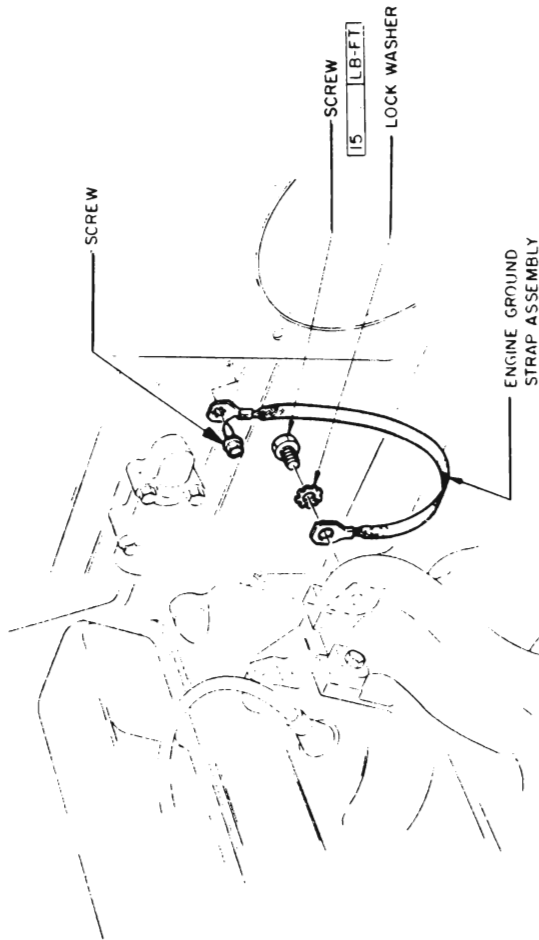
Figure 129-3 Antenna and Radio Noise Suppressor Installation - LeSabre Wildcat and Electra

NOTE: INSTALL CAPACITOR CONNECTOR TO REGULATOR BEFORE INSTALLING REGULATOR



INSTALLATION OF CAPACITOR TO VOLTAGE REGULATOR

129-21A



INSTALLATION OF GROUND STRAP

Figure 129-4 Antenna and Radio Noise Suppressor Installation - Riviera

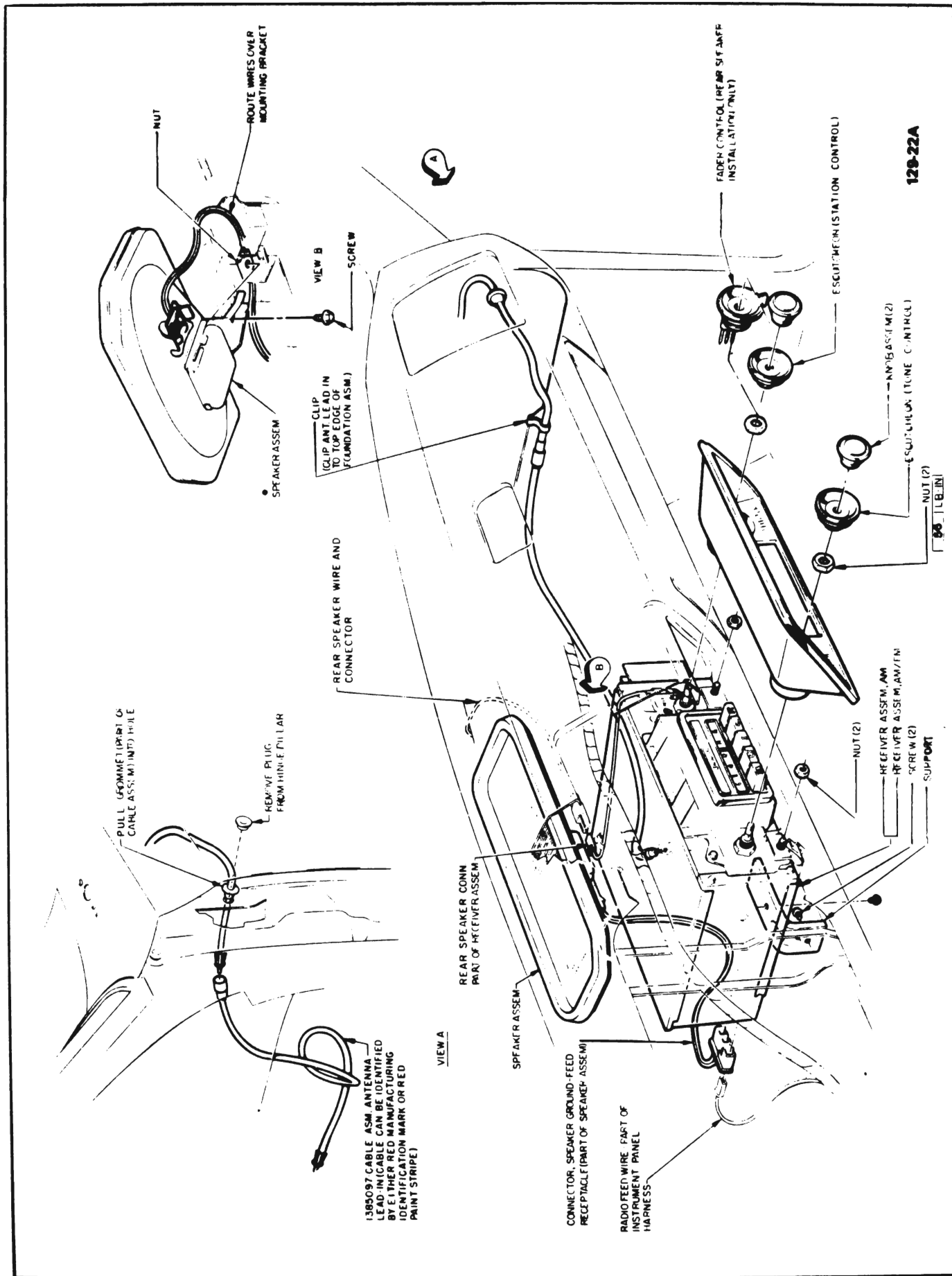


Figure 129-5 Radio and Front Speaker Installation - 43-44000 Series

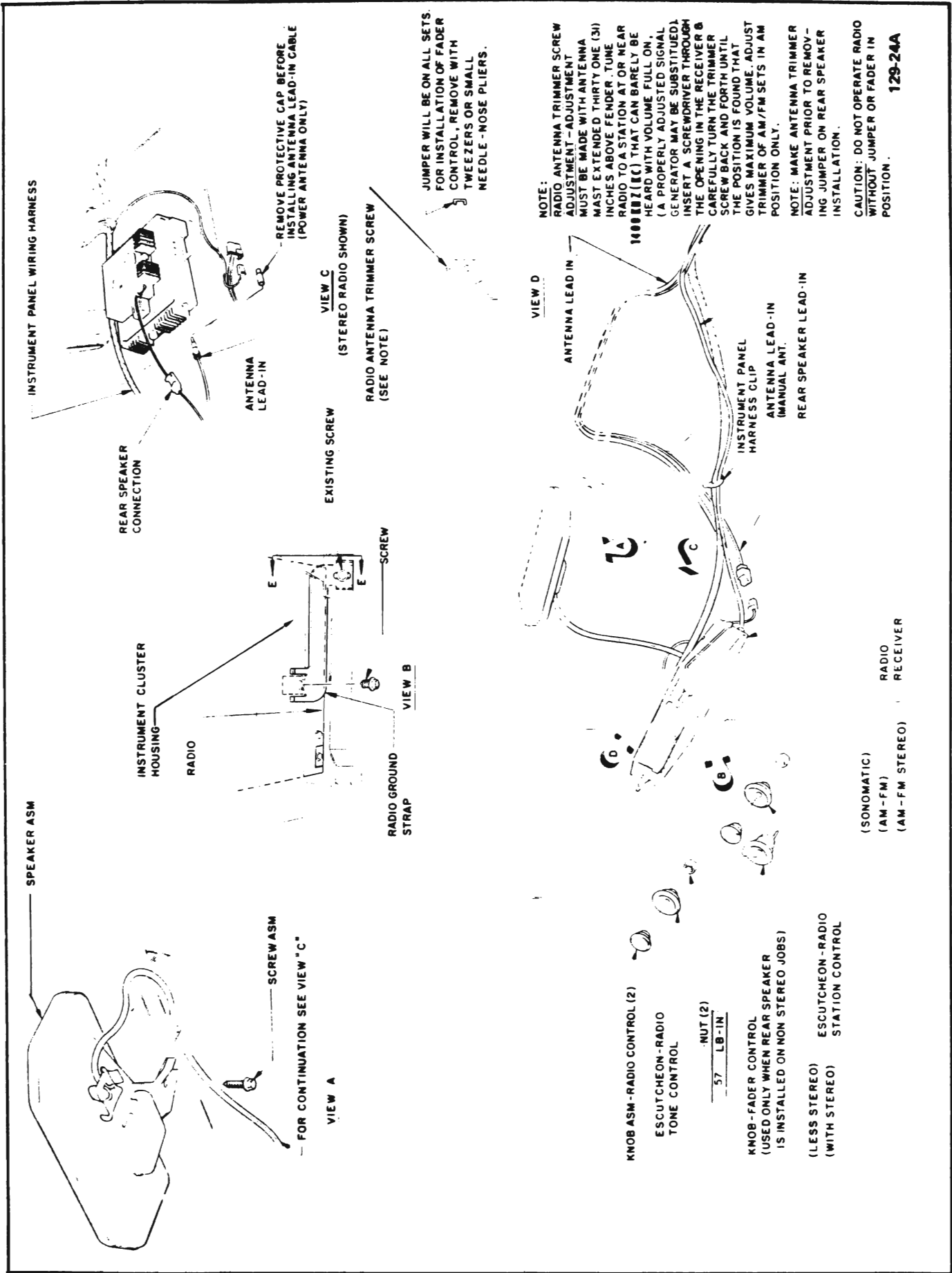


Figure 129-6 Radio and Front Speaker Installation (Includes Stereo Adaption) LeSabre, Wildcat and Electra

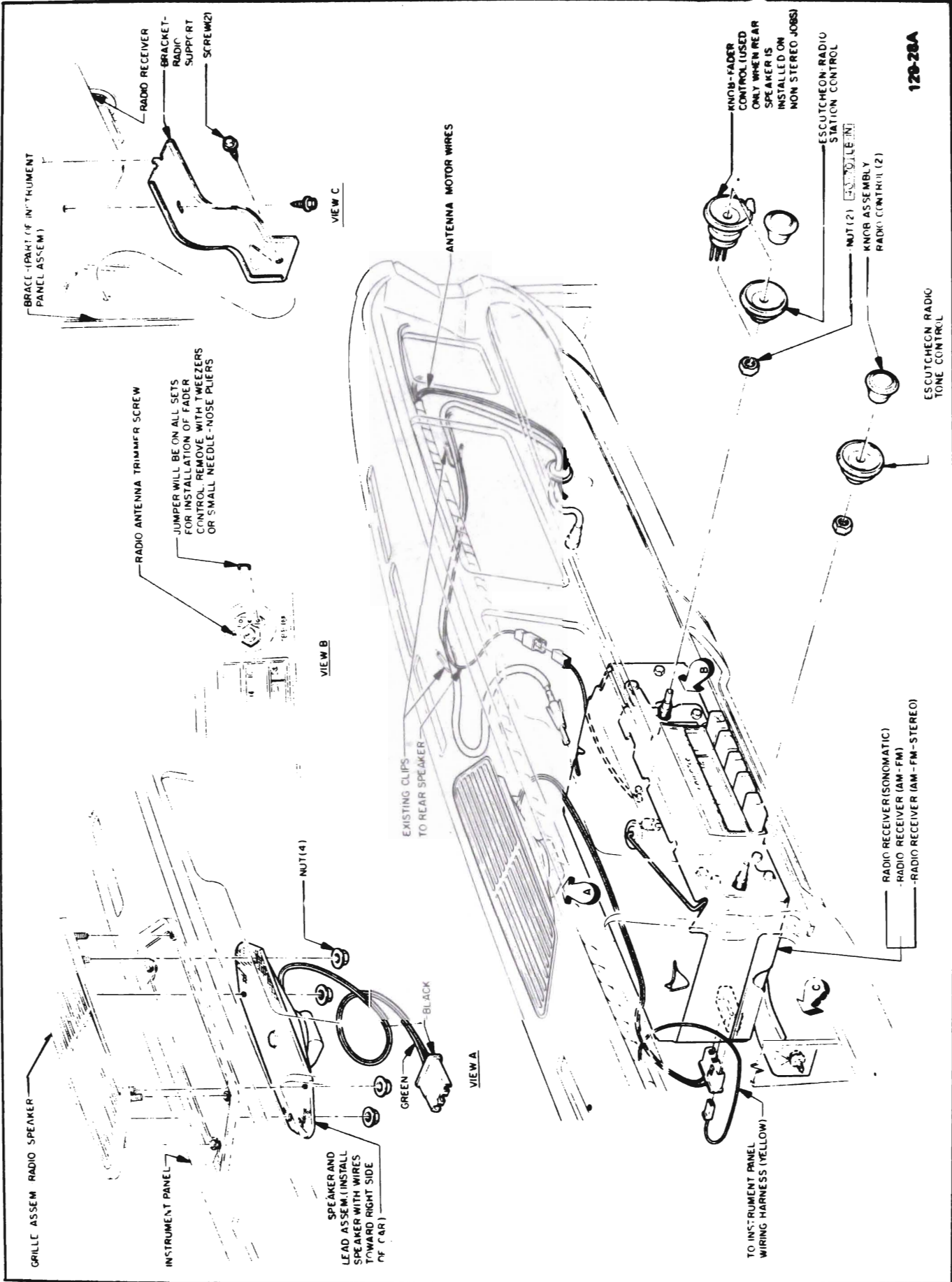


Figure 129-7 Radio and Front Speaker Installation - Riviera

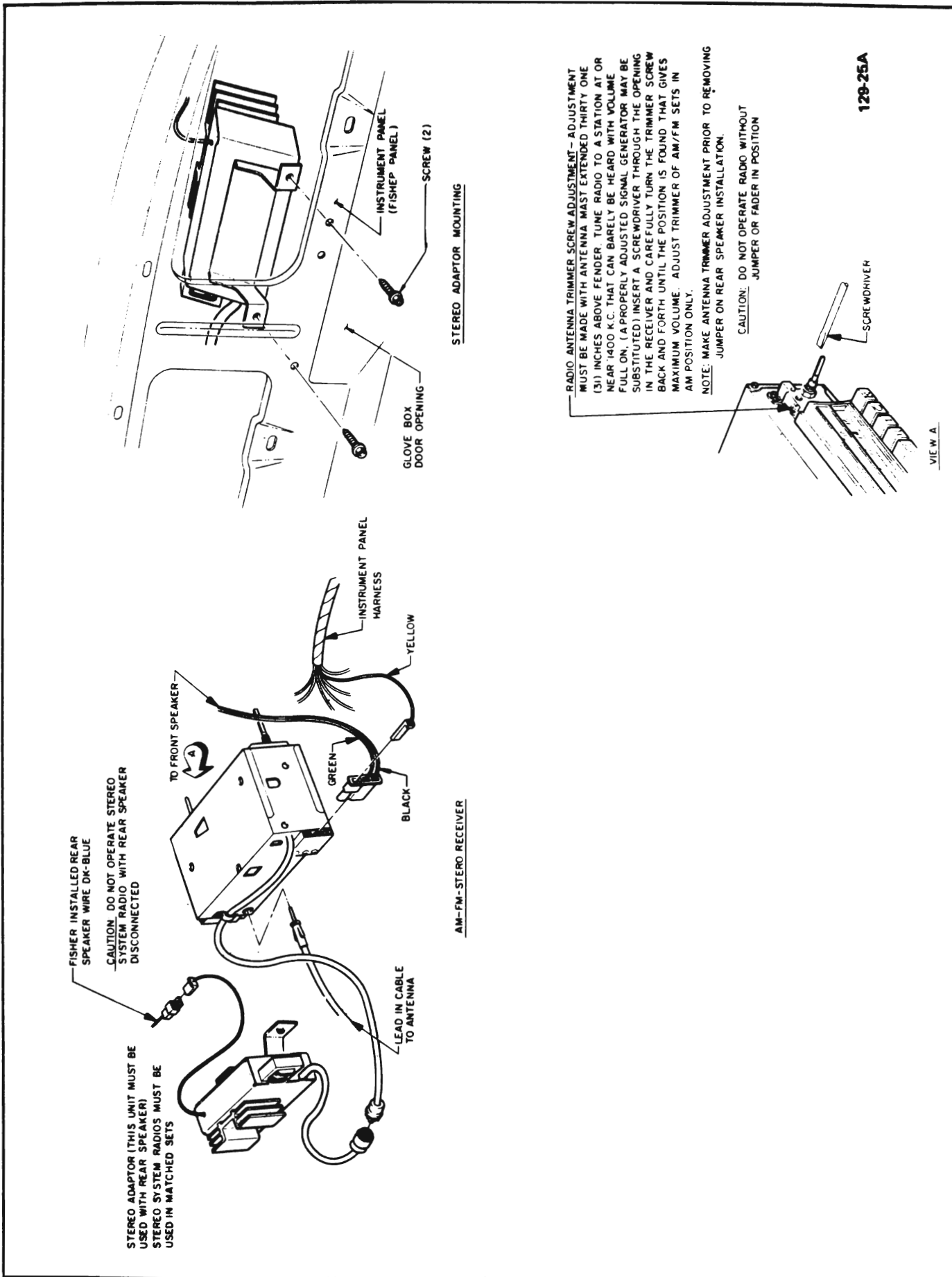


Figure 129-8 Stereo Radio Installation - Riviera

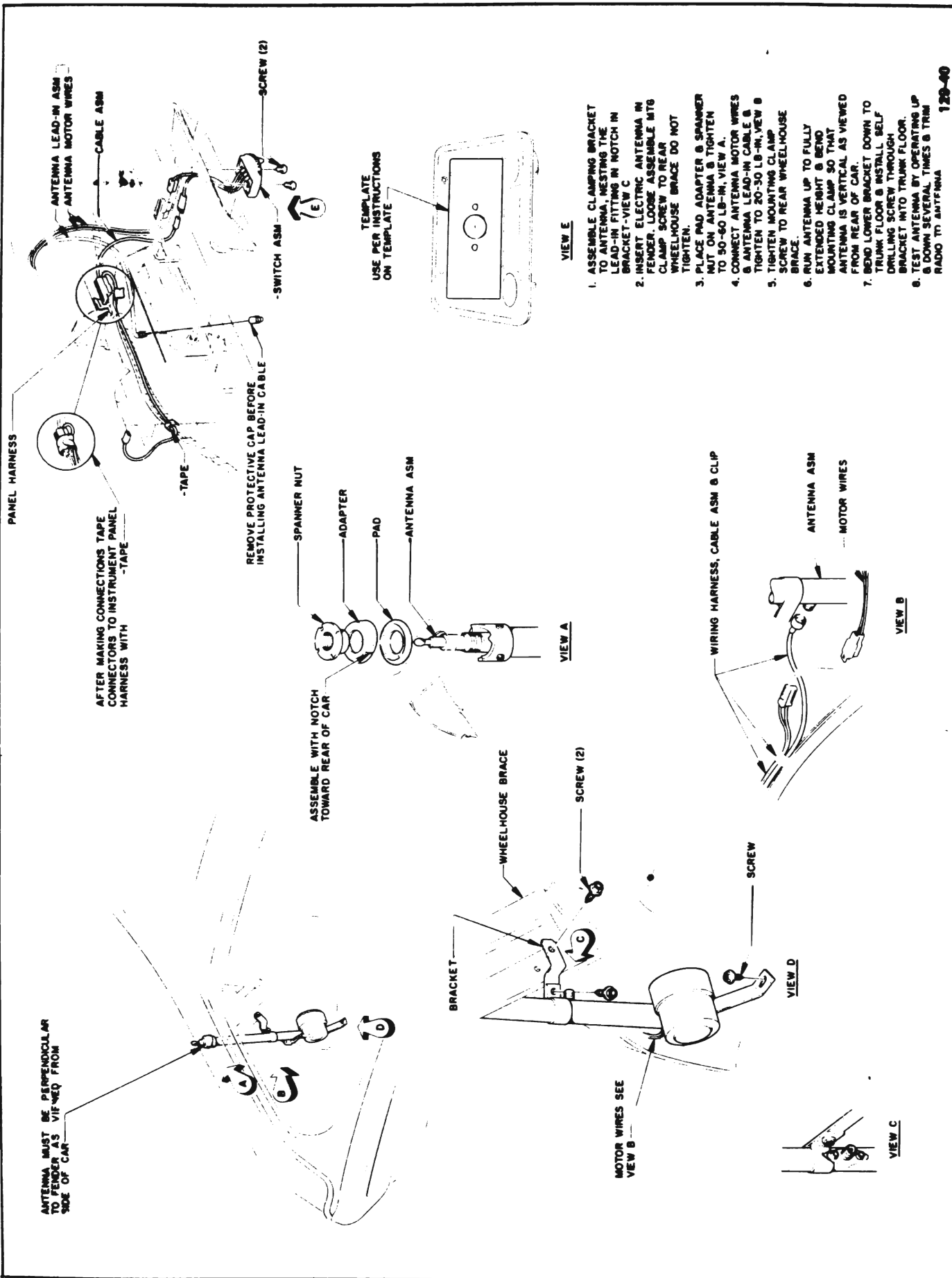


Figure 129.9 Power Antenna Installation - 43-44000 Series

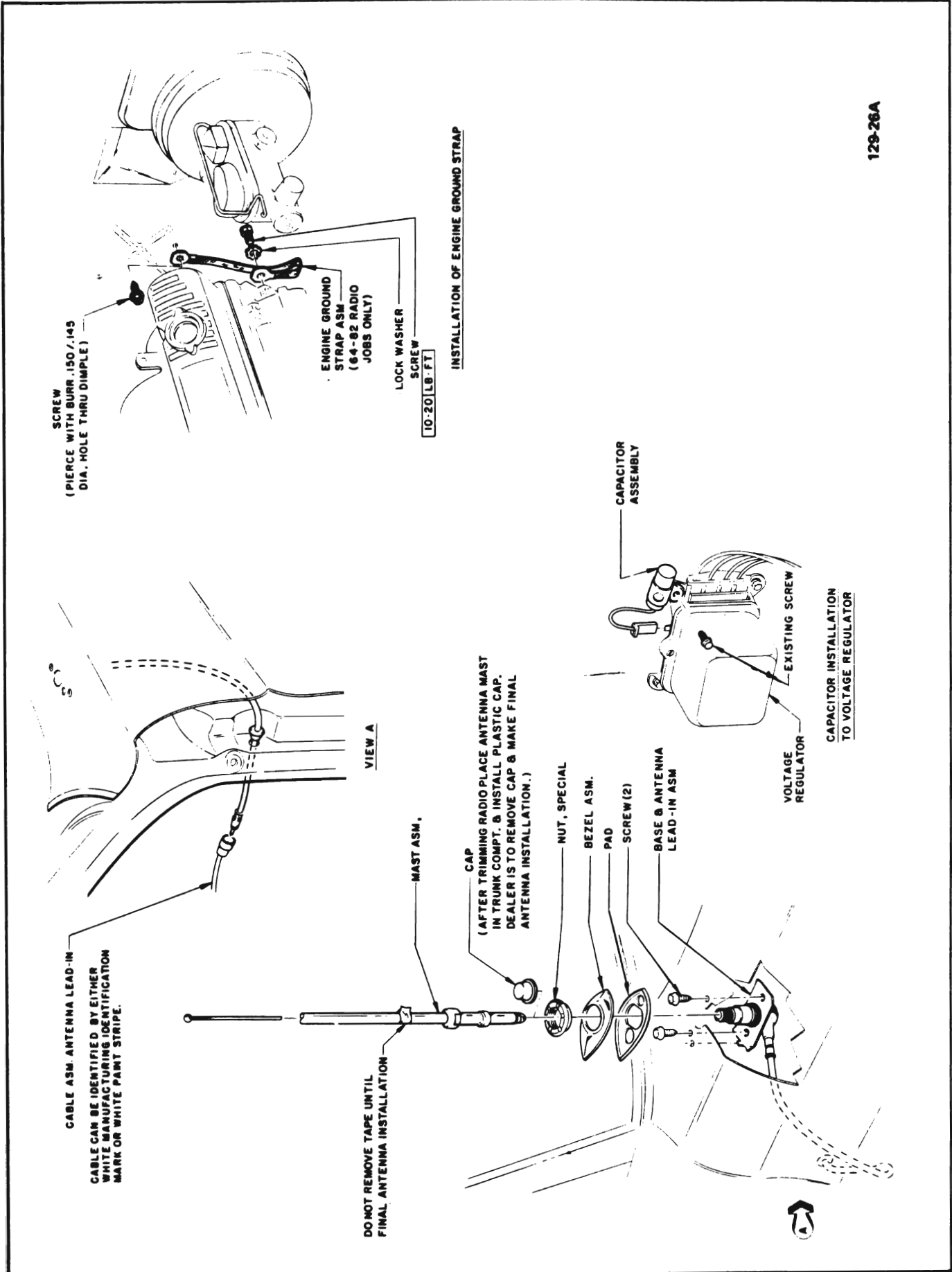


Figure 129-10 Manual Antenna Installation - LeSabre, Wildcat and Electra

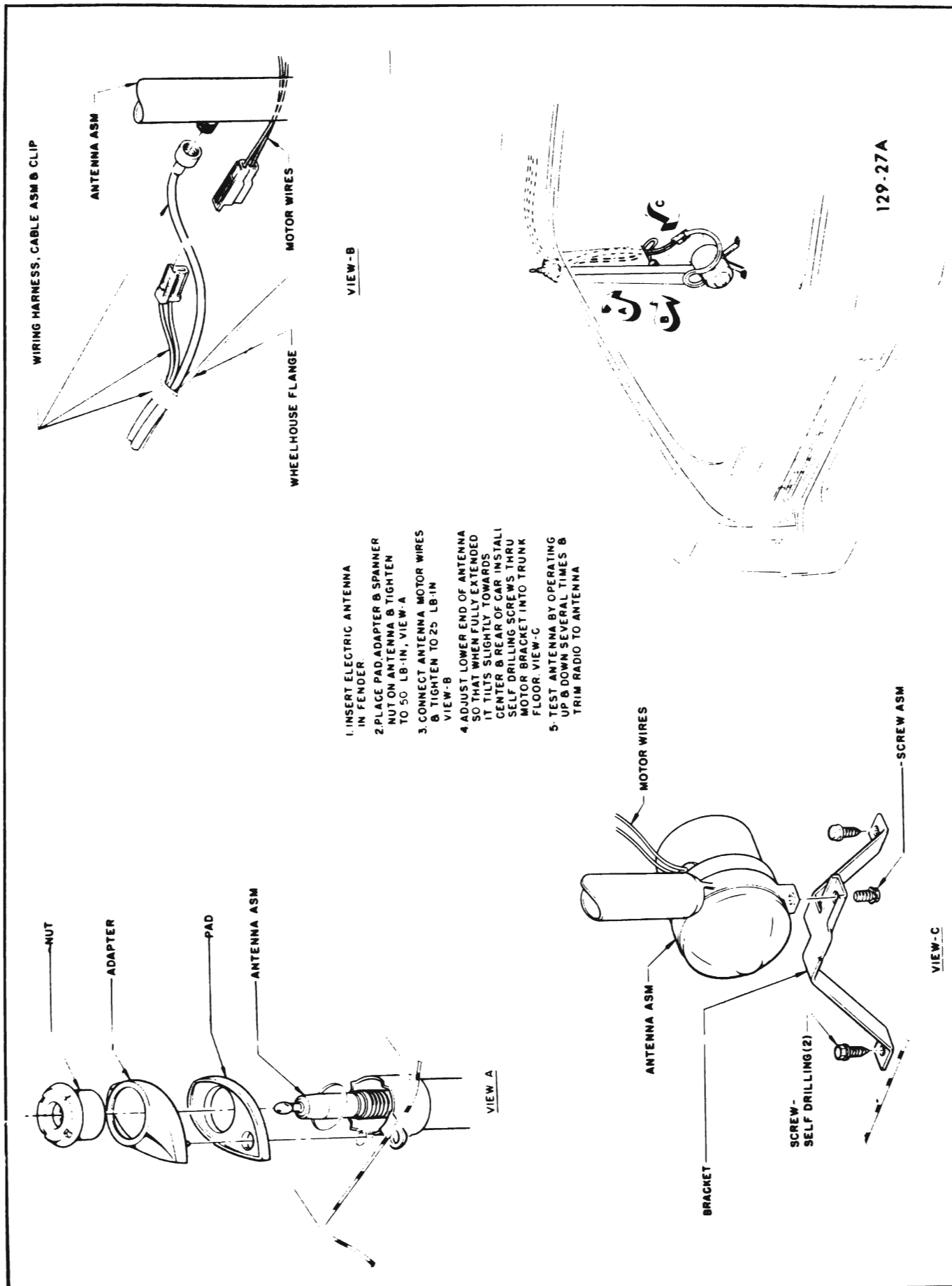


Figure 129-11 Power Antenna Installation - LeSabre, Wildcat and Electra

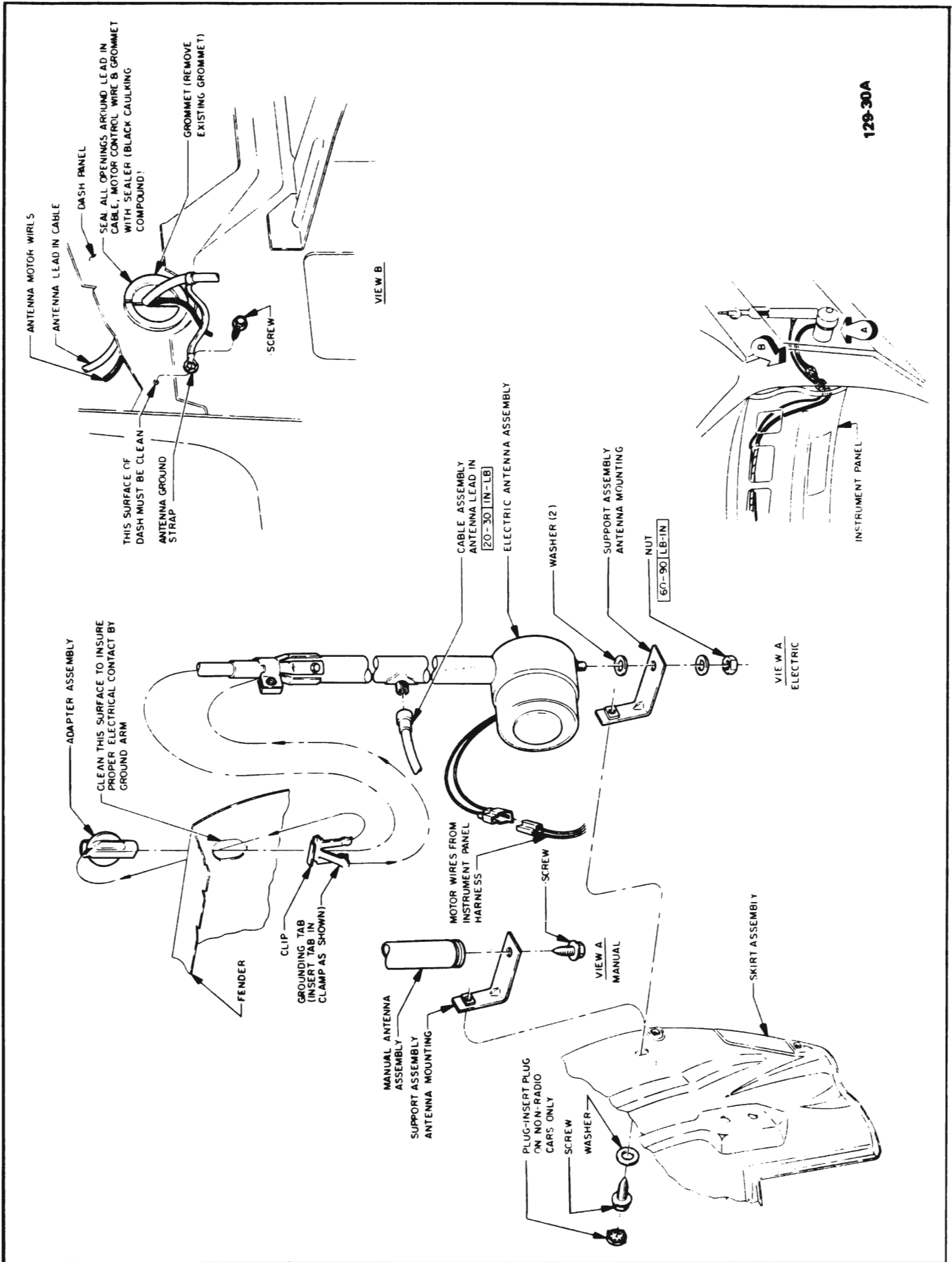


Figure 129-12 Manual and Power Antenna Installation - Riviera

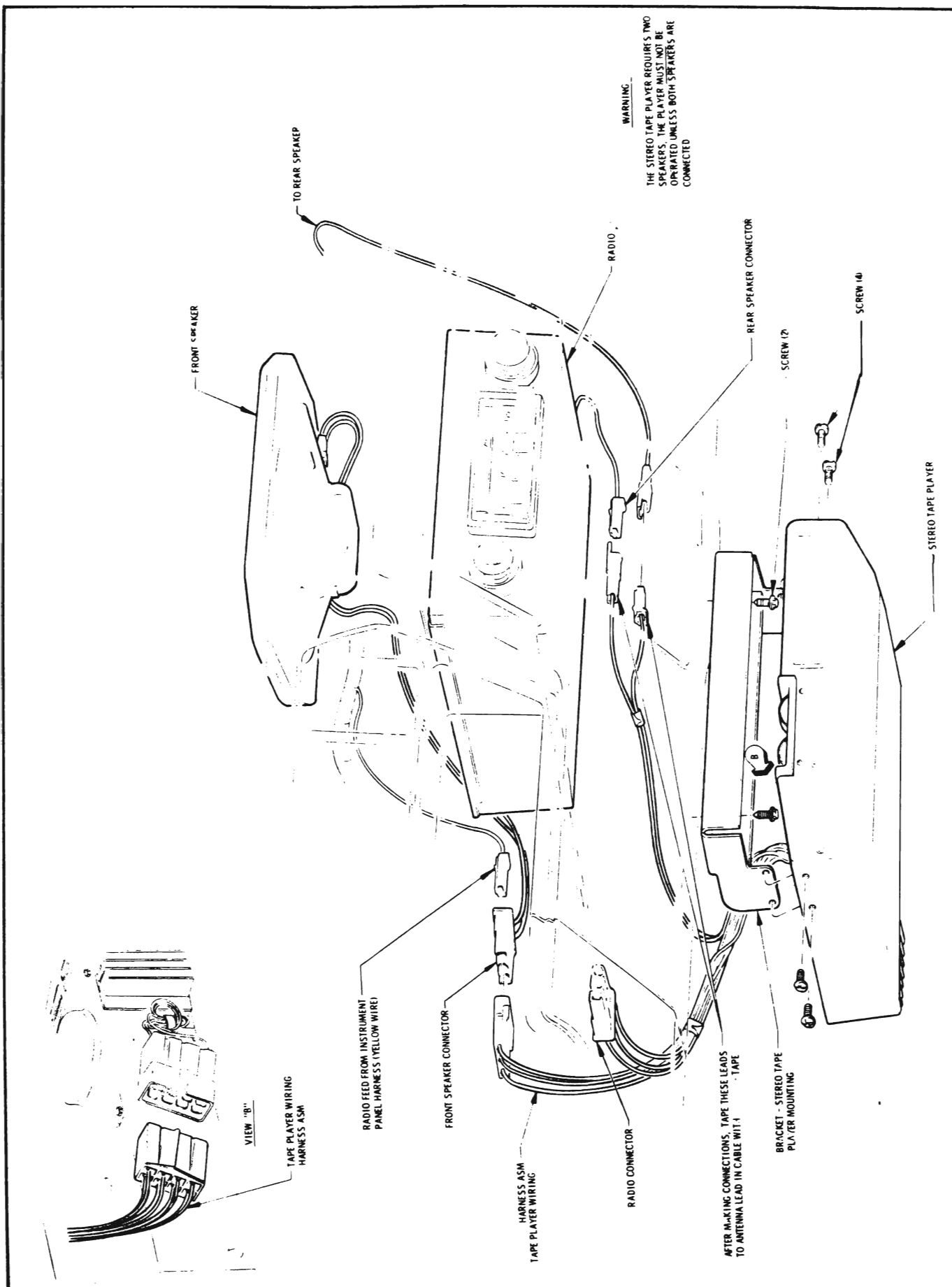


Figure 129-13 Stereo Tape Installation - 43-44000 Series

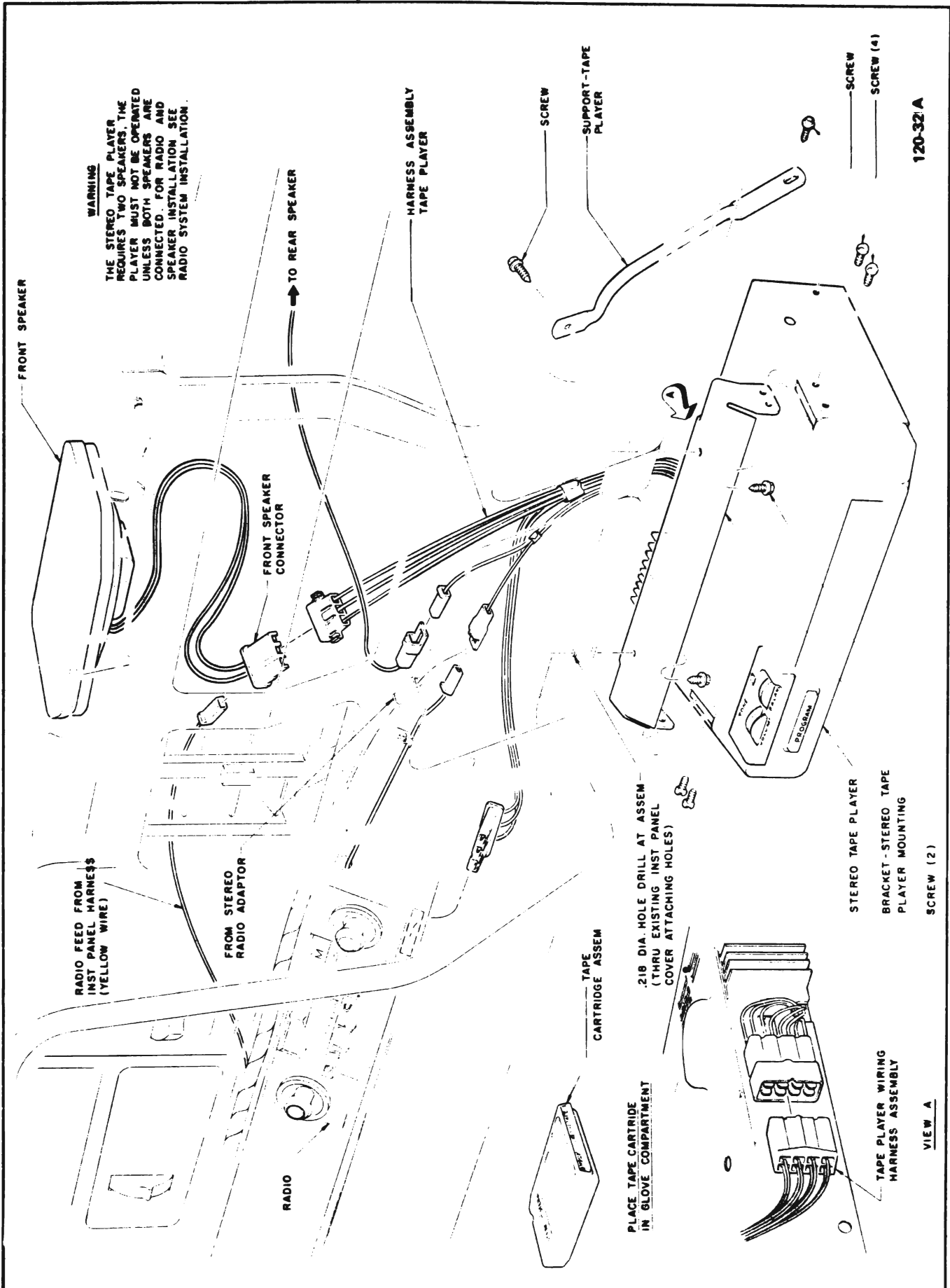


Figure 129-14 Stereo Tape Installation - LeSabre, Wildcat and Elerr'a

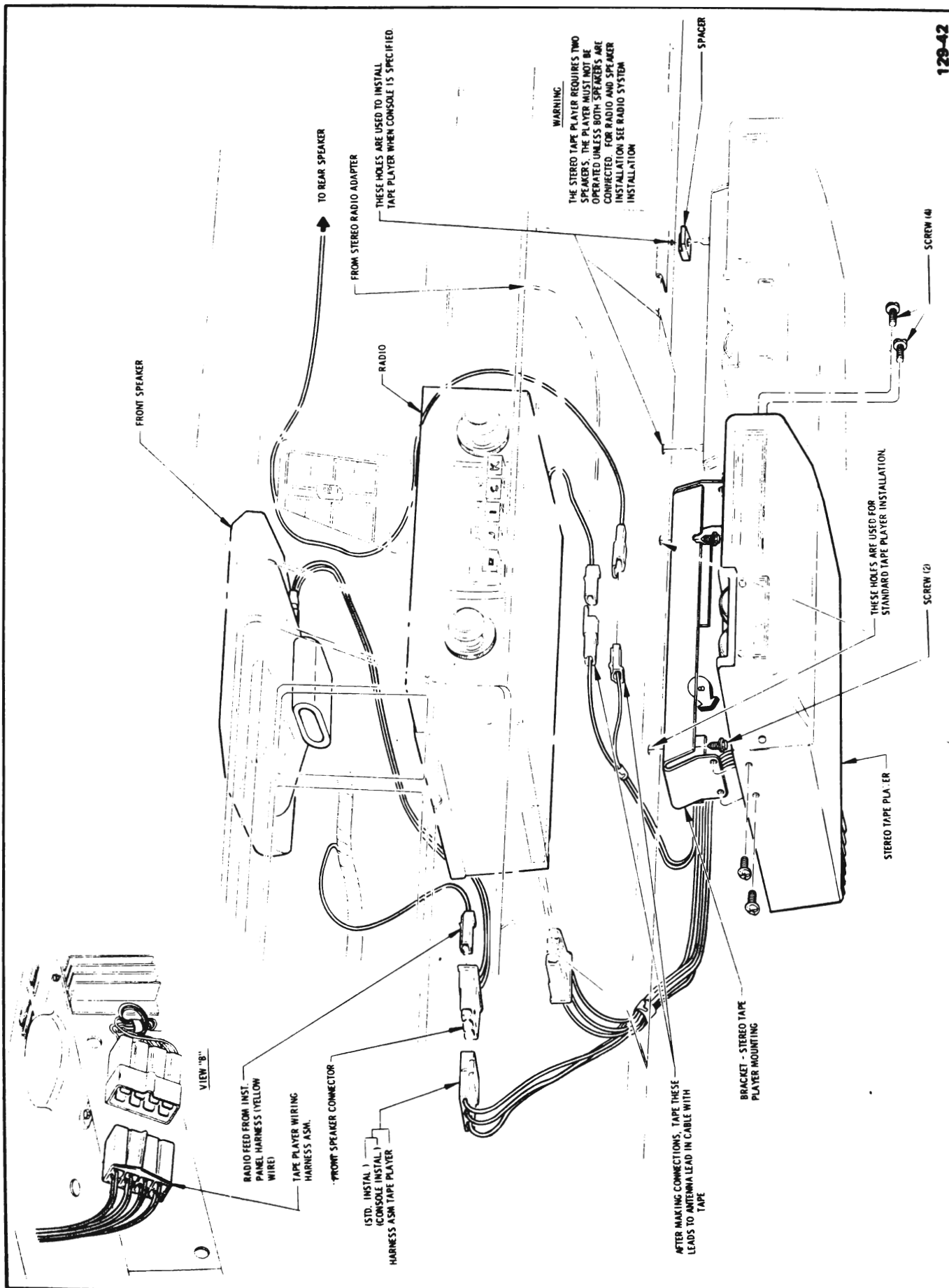


Figure 129-15 Stereo Tape Installation - Riviera

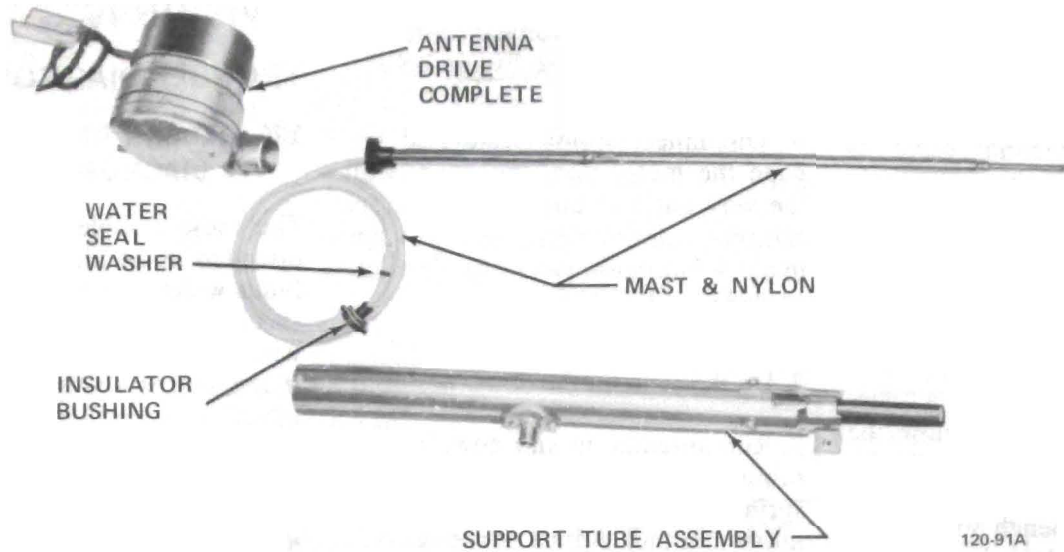


Figure 129-16 - Electric Antenna

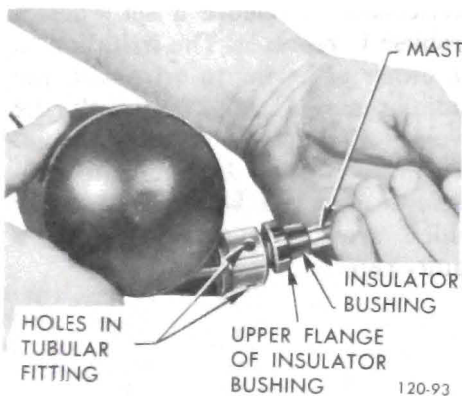


Figure 129-17 - Removing or Installing Mast and Insulator Bushing

nut clockwise a slight amount, and recheck the maximum pull. If the pull is greater than 15 lbs., turn the



Figure 129-18 Antenna Drive - Cover Removed

self locking nut counterclockwise a slight amount and recheck pull. Repeat until the pull is set at 15 lbs. See Figure 129-18.

5. Disconnect spring scale and engage the motor until the mast is all the way out and allow the motor to continue running until the clutch has made a minimum of 15 engagements or clicks.

6. Do the same in the down position.

7. Run antenna up and down for a 3

minute period, then reassemble spring scale to mast and recheck for maximum pull. Adjust as necessary.

8. Snap front cover onto antenna drive and make sure that the vent hole is at the top.

9. Reposition motor and drive and tighten screws on the support assembly.

c. Adjustment - Riviera

NOTE: Before adjustment is made, check and clean mast assembly.

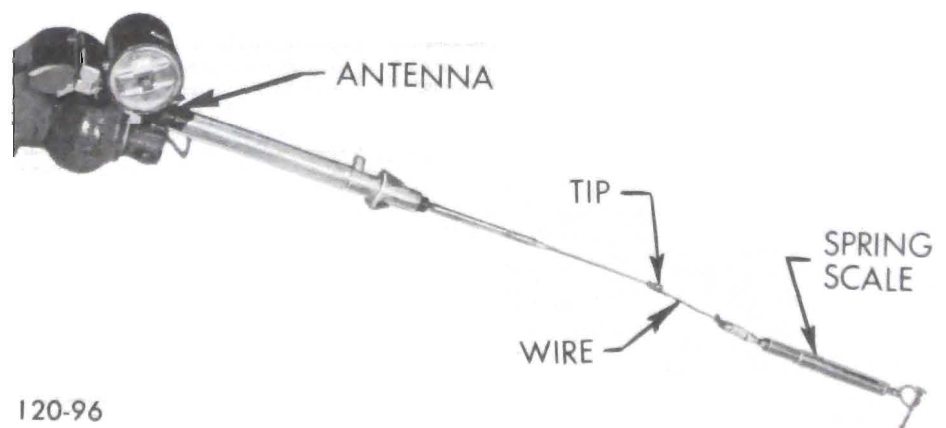


Figure 129-19 - Antenna Adjustment Test

1. Remove electric antenna assembly.
2. Remove the drive cover and place antenna drive in a vise so that the center line of antenna drive is parallel to the bench top.
3. Using 12 volts D.C., adjust mast tip approximately 6 inches from the extreme down position.
4. Connect one end of a wire securely to the mast just below the tip and the other end to a 25 lb. capacity spring scale. Secure the spring scale to the bench so that the centerline of the scale is in line with that of the mast assembly. See Figure 129-19.
5. Using 12 volts D.C., engage motor to the point of maximum pull before the clutch starts to slip. If the maximum pull is less than 15 lbs., turn the self locking nut clockwise a slight amount and recheck the maximum pull. If the pull is greater than 15 lbs., turn the self-locking nut counterclockwise a slight amount and recheck pull. Repeat until the pull is set at 15 lbs. See Figure 129-18.
6. Disconnect spring scale and engage the motor until the mast is all the way out and allow the motor to continue running until the clutch has made a minimum of 15 engagements or clicks.
7. Do the same in the down position.
8. Run antenna up and down for a 3 minute period, then reassembly spring scale to mast and recheck for maximum pull. Adjust as necessary.
9. Snap front cover onto antenna drive and make sure that the vent hole is at the top when the mast is installed in the car.
10. Reseal the assembly with body sealer and make sure that neither the vent hole nor the drain hole in the antenna drive is plugged.
11. Reinstall antenna assembly.

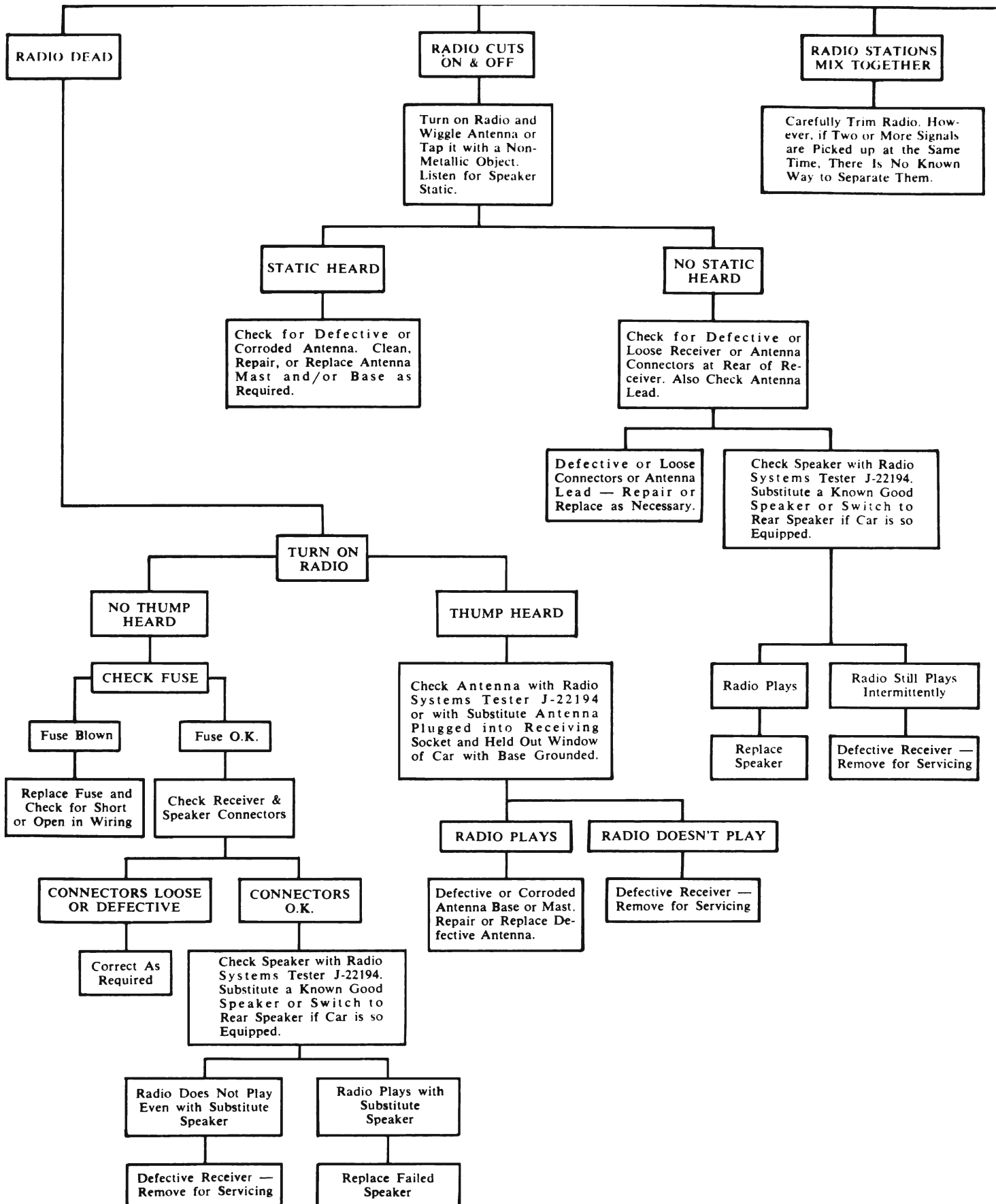
DIVISION IV

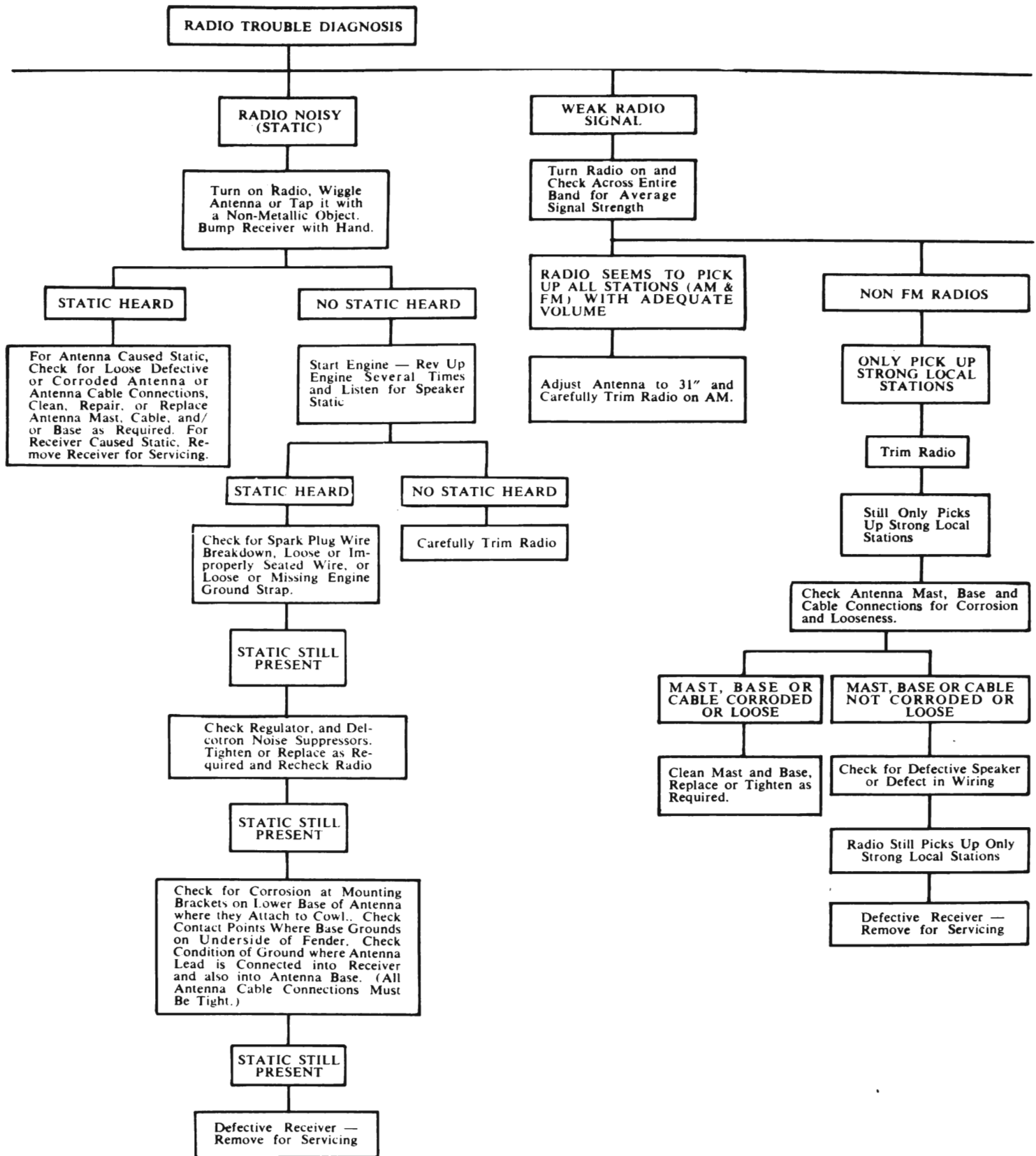
TROUBLE DIAGNOSIS

129-11 RADIO TROUBLE DIAGNOSIS

The radio trouble diagnosis chart is intended as an aid in locating minor faults which can be correct without a specialized knowledge of radio and without special radio test equipment. If the suggestions given here do not affect a correction, further testing should be *done only by a trained radio technician having proper test equipment.*

NOTE: Because radio service problems are generally corrected by United Motors Service repair shops, there is a tendency for many dealer servicemen to remove a set when a problem is reported. The irritation to an owner of having to drive with the radio removed can frequently be avoided if the radio trouble diagnosis chart is used to eliminate problems which can be easily fixed or which are not even caused by a faulty receiver.





*NOTE: On AM-FM or Stereo Radios, Antenna Trimming is always Performed on AM and never on FM Stations. Best FM Reception is Accomplished by Adjusting Antenna Height to 31 inches.

