

MODELS
300X & 301X

These are 12-volt sets designed for universal underdash installation. Model 300X, circuit on this page, is for use in cars with a negative ground electrical system. Model 301X, diagram on next page adjacent at right, is for cars with positive ground electrical system. Other material applies to both models.

NOTES:
CAPACITORS - Decimal values in MF, all others in MMF
unless otherwise specified.
VOLTAGES - Measured from point indicated to chassis
with a VTVM. No signal input. Tolerance $\pm 10\%$.
INPUT VOLTAGE - 14V DC.
TUNING RANGE - 540 KC TO 161D KC.
IF FREQ. - 262.5 KC.

NOTE: Two values of radio input voltage are given as a convenience to service personnel in order to accommodate different power sources. The current value of 440 ma stated on the schematic is for 14 volts DC input to receiver "A" lead.

POWER TRANSISTOR INSULATOR - When replacing a power transistor or power transistor insulator, be sure to use insulator with DC-4 grease (Motorola part No. 11M490487) to insure proper heat dissipation.

TRANSISTOR CHECK - The transistors used in this receiver can be expected to give unusually long trouble-free life. However, the following transistor checks are provided to facilitate servicing:

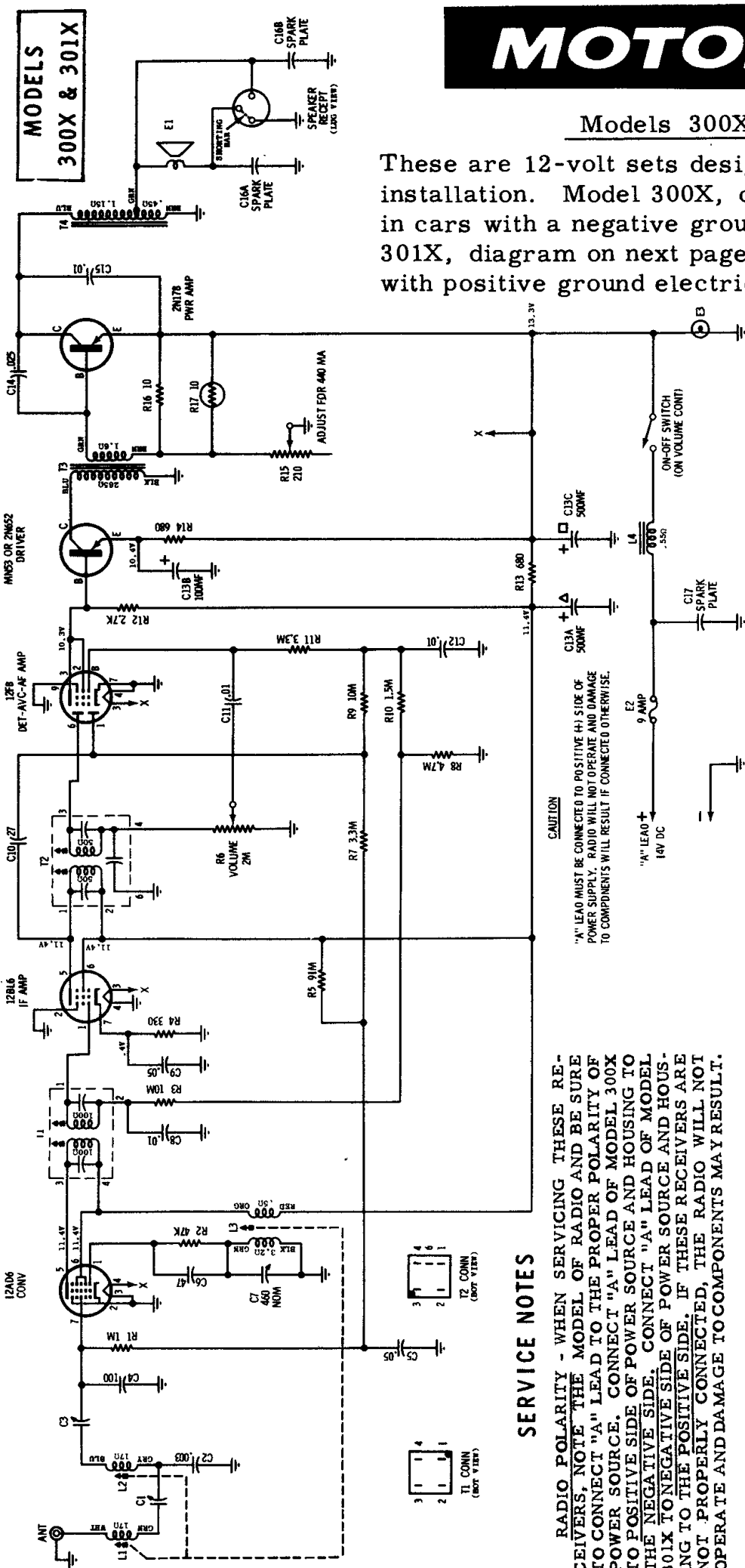
Substituting a known good transistor for a suspected one is the simplest and most positive way of checking transistors. When a transistor is not available for substitution, make a resistance check of the stage. If the values are within the tolerance rating, the bias network can be eliminated as a source of defect and the transistor safely suspected. Bias network defects can be located by resistance checks.

RADIO POLARITY - WHEN SERVICING THESE RECEIVERS, NOTE THE MODEL OF RADIO AND BE SURE TO CONNECT "A" LEAD TO THE PROPER POLARITY OF POWER SOURCE. CONNECT "A" LEAD OF MODEL 300X TO POSITIVE SIDE OF POWER SOURCE AND HOUSING TO THE NEGATIVE SIDE. CONNECT "A" LEAD OF MODEL 301X TO NEGATIVE SIDE OF POWER SOURCE AND HOUSING TO THE POSITIVE SIDE. IF THESE RECEIVERS ARE NOT PROPERLY CONNECTED, THE RADIO WILL NOT OPERATE AND DAMAGE TO COMPONENTS MAY RESULT.

POWER SUPPLY REQUIREMENTS. - It is preferable to use a storage battery (without a battery charger) in place of a battery eliminator when servicing this receiver, because the average eliminator has an extremely high AC ripple content which may damage the transistor and other low voltage components.

POWER TRANSISTOR CURRENT ADJUSTMENT - After a power transistor has been replaced, the collector current should be checked and adjusted for proper operation.

- a. Connect a 0-3 amp DC ammeter in series with the "A" lead.
- b. Remove output transistor from its socket.
- c. Turn radio on and read ammeter with 12.6 volts input to "A" lead (approximately 800 ma). NOTE READING.
- d. Turn radio off and replace transistor
- e. Turn radio on and adjust R-15 for a 360 ma increase over reading noted in step c with 12.6 volts input to "A" lead.



MOTOROLA Models 300X and 301X,

This page has the circuit of Model 301X, and other service material that is applicable to both 300X and 301X.

