Photo 1—This is original battery eliminator.

# Improving Supply To Test Car Sets

By HARRY S. LEEPER

MANY battery eliminators used in service shops to furnish 6 volts d.c. for testing car and some farm radios have no means of regulating the output voltage or checking the voltage applied to the set or the current it draws.

An eliminator with a copper-oxide rectifier is shown, as originally purchased, in photos 1 and 2. The original wiring of the eliminator is shown in the schematic.

This eliminator is rated at 6 volts output with a 15-ampere load. With the original arrangement the voltage would be too high with the light load of most radios.

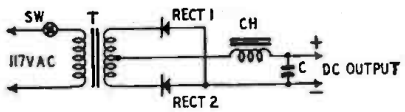
After experimenting with various lamp bulbs in series with the primary of the eliminator transformer, a variable rheostat was installed in the primary circuit to control the output voltage. A voltmeter across the output was necessary. Since an ammeter in the d.c. circuit often gives clues to radio defects, one was added.

A wire-wound, 150-ohm, 150-watt rheostat was used in the eliminator primary circuit. A lower-wattage rheostat could probably have been used, but the ratings of all rheostats decrease when enclosed in a case. A lower resistance could have been used to drop the output to 6 volts with most radios, but the 150-ohm rheostat makes it possible to drop to 4 volts.

A 0-15-volt meter was used across the output and a 0-25-ampere meter was selected because the output circuit is fused at 25 amperes. (Fuse is not shown in diagrams.)

Photo 2—Rear view shows original parts.

Photo 3—Drill holes in panel for new parts.




Eliminator, when purchased, has this circuit.

A 117-volt pilot-lamp mounting was also obtained, as well as a spare switch for the input circuit. All this equipment was made ready for mounting on the top panel cover, or lid, of the eliminator case.

The parts are shown in photo 3, together with the top panel, which has been drilled and in which the required circular openings have been cut.

Photo 4 shows the panel with the parts assembled, while photo 5 is a rear view.

The wiring shown in the second diagram was then completed. Photo 6 shows the flexible wire used, making it easy partially to remove the top panel in case the fuse blows.

The spare toggle switch installed was not wired, but can be connected in place of the original switch if desired, as the latter's location on one end of the case interferes with standing the case on end.

Photo 4—New components are on panel.

Photo 7 shows the revamped elimina-

Photo 5—Rear view shows parts ready to wire.

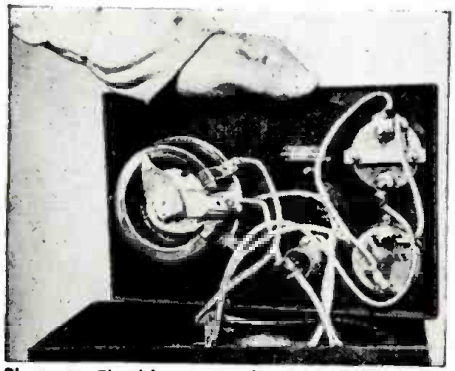


Photo 6—Flexible wire makes assembly simple.

Photo 7—Supply is connected to a car radio.

tor in operation. It is connected to an ordinary car radio and the rheostat is adjusted for practically zero resistance. The closeup view in photo 8 shows that the output is around 9 volts and the current about 6 amperes. The rheostat was then adjusted as in photo 9 to give a normal output of slightly over 6 volts. The ammeter then shows less than 5 amperes.

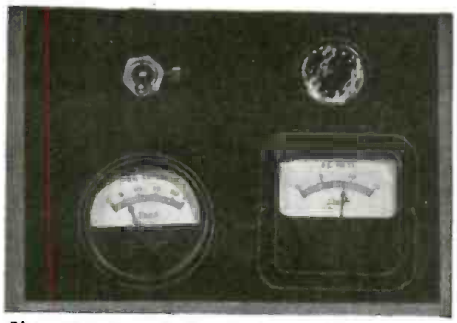


Photo 8—Output: 9 volts; current: 6 amperes.

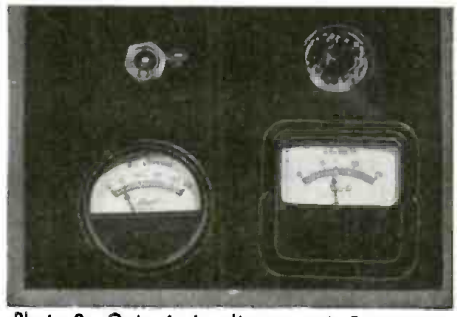


Photo 9—Output: 6 volts; current; 5 amperes.

With the rheostat thus adjusted, the radio's buffer condenser was bypassed with a resistor—to duplicate a partially shorted condenser—with the results shown in photo 10. High current with low voltage is indicated, information which makes the meters worthwhile.

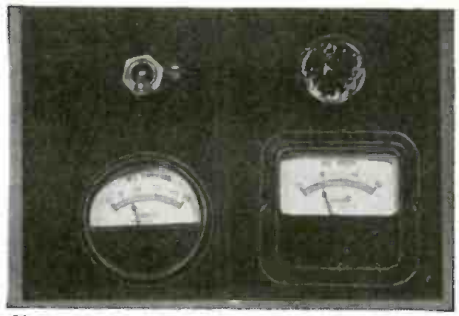


Photo 10—Readings show effect of bad buffer.

Photo 11 illustrates a condition where the rheostat is adjusted—with the radio apparently normal—to place an extremely low voltage (about 4 volts) on the radio.

This treatment may often give an indication of the condition of the vibrator; one with worn points usually will not start on this voltage unless jarred. A weak 0Z4 rectifier tube may also be detected by lowering the voltage below normal, and other defects may be noted by raising or lowering the voltage and watching the meter indications.

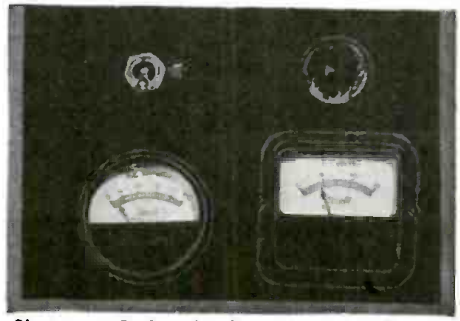
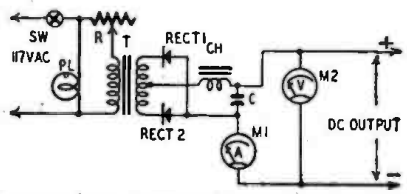


Photo 11—Reduced voltage tests the vibrator.




The complete, revamped circuit appears here.

R—150-ohm, 150-watt rheostat
PL—117-volt pilot lamp
SW—S.p.s.t. toggle switch
T—Step-down transformer
REC1, REC2—Dry-disc rectifiers
CH—Filter choke
C—Filter capacitor
M1—0-25-amp. meter
M2—0-15-volt meter

# NEW YORK SERVICEMEN FORM STATE FEDERATION

Radio and television service technicians of New York State met October 31 at Binghamton to establish the state federation of radio servicemen, which was formed temporarily at Rochester on October 10. The meeting was attended by about 35 persons, including representatives from Binghamton, Ithaca, New York City, Poughkeepsie, and Rochester. It was arranged by the Radio Servicemen's Association of Binghamton, which acted as host to the delegates from the various local groups.

A statement of aims and objectives was made and rules which will serve as the basis of a future constitution were laid down. The objectives of the new Empire State Federation of Electronic Technicians Associations are to promote fellowship and cooperation among servicing groups and better cooperation between the repair industry and the general public. Delegates pointed out that their associations could, through a federation, act more effectively to raise the technical level of their membership by sponsoring lecture tours, and could act in matters concerning state legislation better than could any of the local associations acting alone. A state federation would also have advantages in carrying on educational campaigns among the public and is in a better position to encourage formation of new associations.

Each association will send two delegates to Federation meetings. At present, one of the two delegates also serves on the board of directors. Meetings will be held several times a year. Dues at $20 a year for each association was set, and it was decided that meetings should be rotated among the various cities which have member associations.

Officers and a board of directors were elected. They will serve until the first annual meeting, which is to be held in April, 1949. The first permanent officers are: Lawrence Raymo (president, Radio Technicians Guild, Rochester), president; Max Leibowitz (president, Associated Radio-Television Servicemen of New York City), vice-president; Wayne Shaw (president, Radio Servicemen's Association of Binghamton), secretary; Ben De Young (president, Central New York Radio Technicians Guild), treasurer; and Evart M. Holland (president, Hudson Valley Radio Servicemen's Association), Sergeant-at-Arms.

Federation headquarters was established at the address of the secretary, Wayne Shaw, 392 Chenango St., Binghamton, N. Y. The first efforts of the Federation will be to assist technicians or groups of technicians who wish to form their own local associations in any part of New York State.