

PHILCO
Factory-Supervised
Service



the **PHILCO SERVICEMAN**

VOL. 23 NO. 1

JANUARY, 1955

Join the
MARCH OF DIMES
January 3-31



Lovely Lee Ann Meriwether, MISS AMERICA OF 1955, presents Service Achievement Award to Garland Long, Television Manager of Harrington's, San Diego, California (which is Miss America's home state). As you can see, Mr. Long is having a hard time keeping his eyes on the plaque!

SERVICE BINDERS

FOR THE HOME . . . FOR THE SHOP . . . FOR MORE EFFICIENCY

THERE is only so much service information you can commit to memory. The rest—although you may not use it often—should be available no matter where you roam in the line of duty.

Most successful service technician's shops look like the one illustrated below, with a separate reference file of all pertinent service data. They find the big, expandable 3-post Philco Service Binders perfect for filing practical service information safely and conveniently. These large sized binders store a multitude of literature, opening to a full 3¾ inch capacity, and still remain flat when opened.

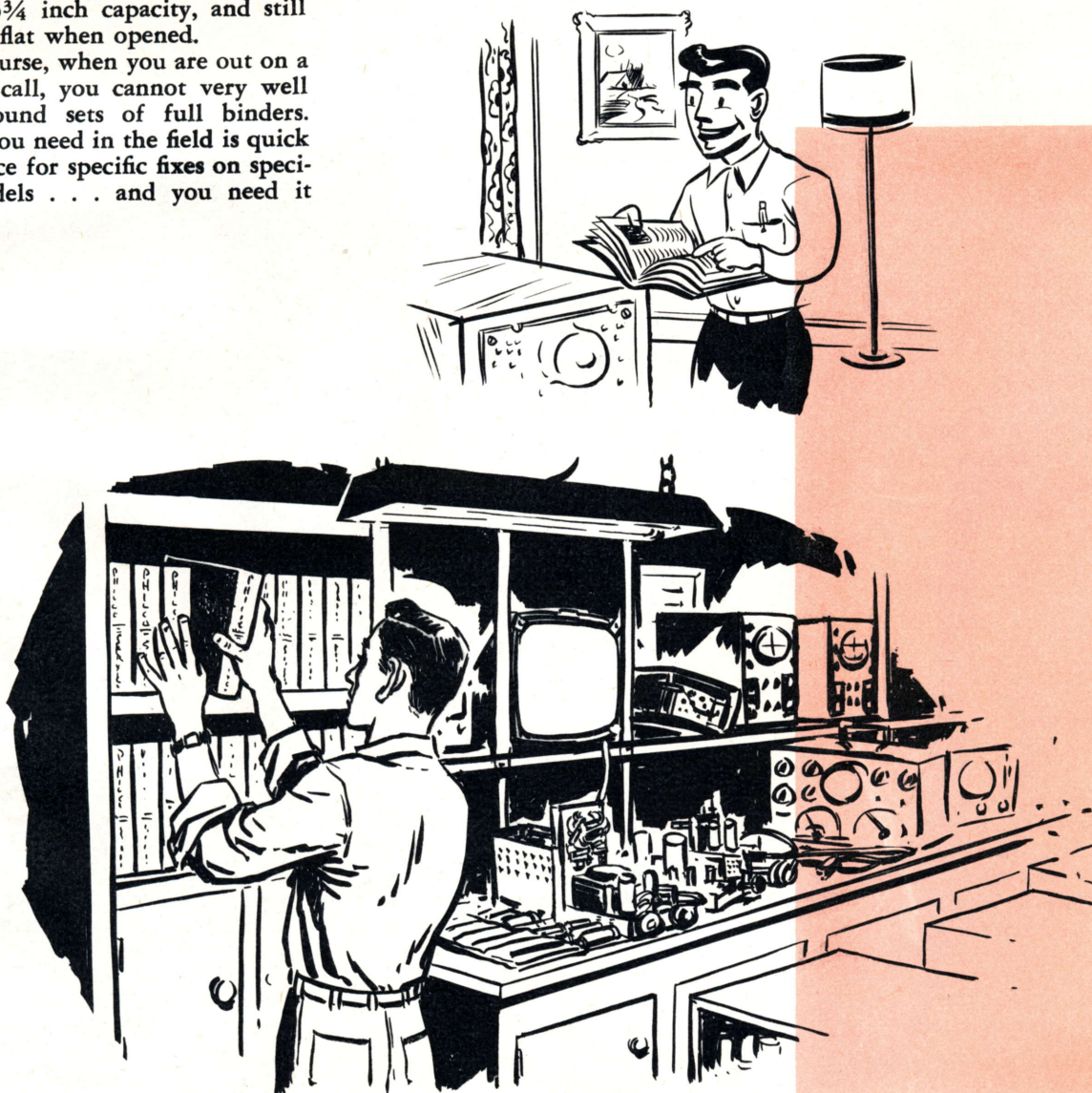
Of course, when you are out on a service call, you cannot very well lug around sets of full binders. What you need in the field is quick reference for specific fixes on specific models . . . and you need it fast!

The answer here is obvious—what you should have (if you don't already) is a couple of sets of Philco "Leather Web" Binders, a 3-ring, one inch capacity binder that enables you to take the important data right into the customer's home for fast, fingertip reference. Then, when this information has been absorbed to your satisfaction and is no longer needed as constant reference, it can be transferred to the larger binders that form your permanent shop library.

Either or both style binders will

be a welcome addition to the harried serviceman's tools. The 3-post Philco Service Binders (PR-2157) and the Leather Web types, with the words "Electronic Service Information" (PR-2687 in gold on blue), or "Appliance Service Information" (PR-2688 in gold on green) should be ordered from your local Philco Distributor.

Good housekeeping of your reference material can mean the difference between "sweating out" or "brezing through" a job. Get both and soon!



FROM TOWER TO BASEMENT THE WATCHWORD IS **PERFORMANCE**

ON THE fifth and topmost floor of the building two men probe busily at a motor compressor lying amidst a pile of dismantled refrigerators, air conditioner components and freezer panels. . . .

On the fourth floor, a trio of girls pass swiftly from one laden table to another, pulling sheets off stacked piles, stuffing them neatly into brown envelopes. In the corner a postage meter clicks rhythmically and the envelope pile rises higher and higher. . . .

Directly below on the third floor, a group of men hunch forward expectantly in their seats as the screen before them dissolves into a closeup of a new television chassis. . . .

In the middle of the second floor, file drawers lie open revealing row after row of brightly colored, perforated cards—thousands of them—representing the membership of a great service organization. . . .

The big mobile lab on wheels backs cautiously up to the ground floor loading ramp. Two men, reports in hand, hop nimbly from the cab and head into the building—another field trip under their belts. . . .

That fellows, is your bird's eye, whirlwind tour through Philco's new Plant 8, where Service, Product Performance and Field Engineering operate hand in hand to provide the consumer with today's wondrous appliances and electronic instruments. Now we'd like to take you back into the plant for a more leisurely trip. We think that our serviceman readership will find these operations both interesting and profitable to learn since they, too, are a part of this team—the guardians of Philco performance after the product has reached the customer's home.

Re-entering the building we met up with Dave Schleinkofer, assistant to Ray Sonderup who heads electronic product performance. Dave explained carefully the great diversity of activities that take place here, all centered on a close examination of Philco TV receiver performance. He showed us the lines of receivers that were being

put through the famous Philco 40-hour performance test. Each day approximately 40 different models, selected at random, are pulled out of the shipping rooms at Philco's great electronic production center. These sets have gone through the

The bond between factory production and product performance is close, for it is the performance group's efforts that determine how quality is running from the manufacturing end. To keep production on its toes, product performance



assembly lines, have been packed, and are ready for final shipment.

Upon receipt at Plant 8's product performance department, each carton is carefully inspected for shipping damage and cabinetry defects. Then the sets are plugged in and checked for on-the-spot failures. Finally, the performance crew settles down to a 40-hour vigil during which each receiver is subjected to periodic inspections while operating.

has established a grading system whereby each model tested is scored on a percentage point basis. These scores are transmitted back to the production lines and serve as an incentive toward maintaining high quality. The various factory production crews watch their scores with the same enthusiasm as big league baseball fans rooting for their favorite teams.

Fred led us into another section where additional sets undergo long

range life testing. For periods up to 4,000 hours these receivers are subjected to extremes of temperature and humidity to determine their harmful effects upon finishes and operating components. Some of the worst climatic conditions in the country are simulated right in these hot rooms to insure the well known ruggedness of Philco television, no matter where they have to operate.

Major electronic products are not the only concern of these performance experts. They also exhaustively test new type tubes and

their engineering personnel travel continually throughout Pennsylvania, as well as any state in the Union. Carrying pre-production or first production run receivers, they put them through the paces—a series of rough, tough tests under every condition of adverse reception imaginable—constantly evaluating efficiency while stacking them up against the best competition has to offer in comparative price ranges or slightly higher. Always striving for a better product, this traveling engineering lab has standards that call for matching competitive sets

the membership. The second floor is the vital nerve center from which all member activities stem.

Through blood, sweat and tears the production and expediting groups for technical manuals and publications meet their deadlines. All of the data—the product modifications, design changes, fixes and associated knowledge—flow through these men's hands where it is shaped, formed, illustrated and placed in the field.

A telegraph-teletype room keeps Headquarters' hands on the pulse beat of service throughout the nation. Busy all day long, it sends and receives messages to and from Philco's network of Distributors



components, as early as the pre-production phase. Included as well are a host of accessory items such as small components, test equipment, UHF converters, rotors, etc. Nothing is left to chance when the first consideration of this manufacturer is quality to the highest degree possible.

At this point we were interrupted by the rumble of motors and it sounded as if we were back in a GI motor pool. Fred hurried us outside and there, warming up their engines, were the field engineering group giving their mobile labs a last minute check-up. These vehicles are completely equipped for the most thorough TV receiver testing, and by virtue of their mobility, range far and wide testing products in every conceivable reception area (some of them are really beauts, receiving signals from up to a dozen sources!). Based at Plant 8, the trucks and

... then surpassing them!

We left product performance with the thought that all of this tremendous effort is helping to create more efficiently engineered Philco products and supplying invaluable data to the service members responsible for keeping that efficiency alive at top performance levels.

On the second, third, and fourth floors, reaching into every office, lab and shop, the vast organization that is Philco Factory-Supervised Service finds its main headquarters. Here, in a hundred different ways, scores of men and women are charged with one mission—serving

and factory representatives in every state, and contributes to the conduct of everyday business—routine and extraordinary.

The membership department, containing the priceless member records, occupies a large portion of

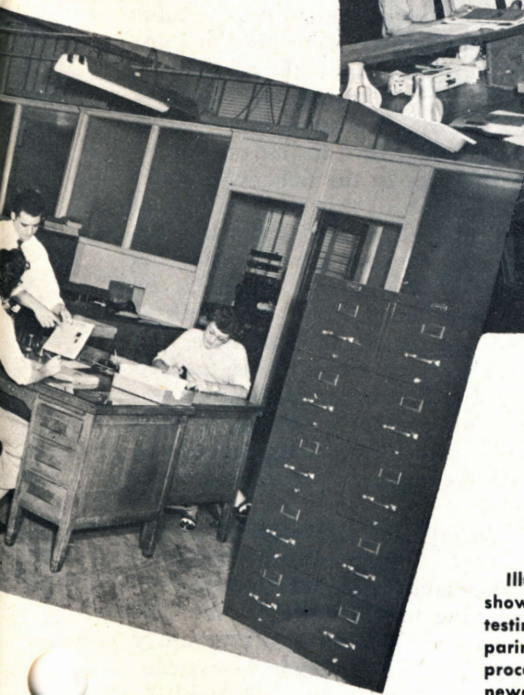
this second floor. There is at least one card for every member—more for some. The vast job of keeping track of each member and his category is carried out with automatic efficiency thanks to dedicated personnel and a battery of time saving machines. At this time of the year alone, an unbelievable effort connected with renewal is taking place. Thousands upon thousands of members must be contacted, processed and recorded in as short a period of time as possible, and without disturbing the continuity of the member's benefits. But every man and woman know their job down to the last "t" and processing renewal memberships follows the same efficient manner that characterizes the entire membership force.

To round out the picture, the second floor also includes the General Manager's office, appliance managers' offices, and appliance

lecture rooms and laboratories. It is here that the appliance service managers plan their time saving, work saving strategy for refrigeration members. Currently a heavy portion of their effort is being directed toward the newest star in the Philco sky. Preparations are taking place to open up the entirely new category of Home Laundry Service. Even now the package of advance service know-how, designed to put you in the forefront of the washer service business is being formed.

One flight up is the home of the electronic service department—its

managers, writers, draftsmen and office personnel. Bill Satterfield, Manager, Electronic Service, summed it up for us when he likened this section to one large training school stretching from one end of the floor to the other. The electronic boys are especially proud of their voluminous theatre and lecture area directly adjacent to a large demonstration practice lab. After viewing technical films and slides, the audience can move right into the lab for plenty of actual practice while the film is still fresh in its minds. To this center your own Distributor Service Managers



Illustrations, from left to right, show—Product Performance life testing of Philco TV receivers; preparing a PFSS monthly mailing; processing PFSS membership renewals; Service DR's learning new washer techniques and one of Philco's famous "mobile labs" in action.



and Philco Service DR's come periodically to "soak up" the latest advances in electronic servicing. Upon their return to home base, this vitally current data is passed on to you in the form of service meetings, clinics, and special training.

The fourth floor has been set aside as the repository for the staggering amount of printed literature that finds its way into members' hands each month. Mountains of manuals, study books, magazines are piled high along the walls preparatory to mailing. Tom Walsh, in charge of PFSS member mailing, quoted us some interesting statistics indicating the tremendous work load involved in a mailing set-up. This year, for instance,

types produced in the model shop, as well as trial runs out of factory production. In fact, the first sample of a production run comes directly here for careful testing and evaluation to determine if they compare favorably with the original prototype samples and engineering specifications.

Bossman Howard Tomlin explained the ambitious plans that will eventually make this setup one of the most completely equipped of its kind in the country. He showed us where the rugged hot rooms would be assembled, those torture chambers where refrigerators, freezers, air conditioners and washers will "sweat it out," undergoing hot and humid weather simulations

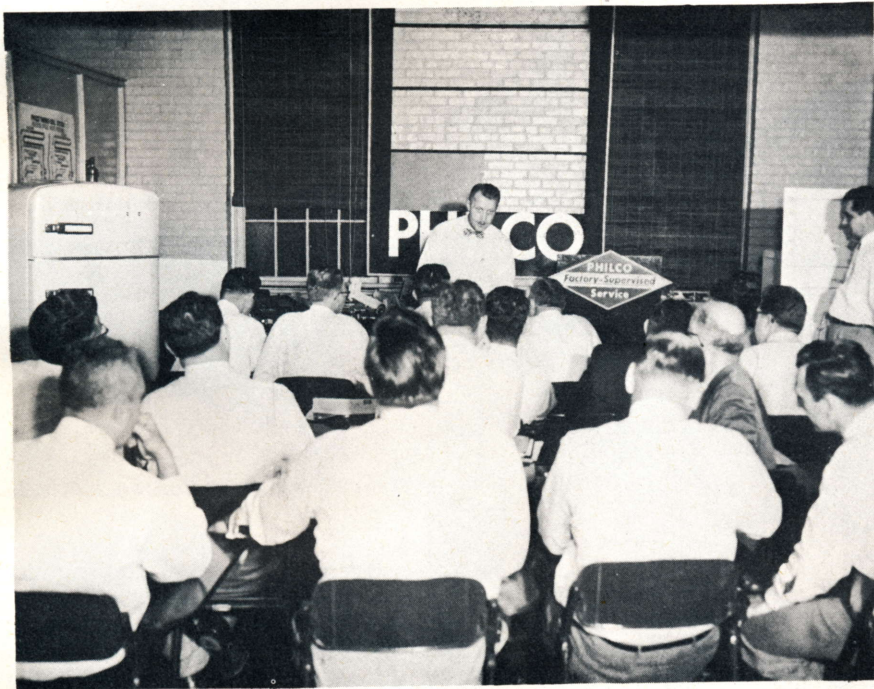
lying calm that prevailed in what seemed to be a highly complex undertaking. On every floor men and women were going about their jobs with a maximum of speed and a minimum of fuss. Whatever they were doing—whether it was dinging a refrigerator door—or stuffing an envelope—they were doing it with enthusiasm.

Then we started to think about the underlying factors of this well enjoyed trip and it's certainly something to think about. Take that girl over there. She may be sealing and addressing an envelope that is going right out to you. You may never meet her, but because of her and people like her, the information you need to stay in business comes winging its way to you every month like clockwork—wind, storm and dark of night notwithstanding.

Or go upstairs and eavesdrop on what's taking place in that room in the corner. Everyone's gathered around a refrigerator. You might not recognize the model—it's not last year's or this year's. But it could well be one of next year's top sellers. Maybe these guys are making a revision on one small component. And maybe that revision will save you one heck of a lot of trouble twelve months from now. It may be the difference between a tough fix and a lot of sweat, or a really fast job well done because one of the service manuals you receive each month pinpointed it for you right off the bat.

We're just trying to illustrate how all the important functions in Plant 8 boil down to just one fact—it's the man in the field who is the recipient of all this effort, all these man hours expended and materials created. As your service work becomes more and more complex, the intricate machinery of Philco's Plant 8, human and inanimate, that make up this function is speeded up for still another purpose—keeping you currently abreast of each new complexity and supplying you with the answer as soon as there is one.

Like other manufacturers in the industry, Philco spends hundreds of thousands of dollars annually researching for the better products of tomorrow. But, here in this newly established Philco performance center, they are really dedicated to building the better products of today.



Factory service representatives gathered for a briefing on latest home laundry developments at Philco's new service headquarters.

PFSS will mail over 500,000 individual member information packages, containing almost 4½ million separate inserts! These figures do not take into consideration hundreds of special mailings as well as a heavy flow of routine first class correspondence.

High above the street, Product Performance for major appliances makes its daily contribution to the Philco quality trademark. Closely allied with factory engineering, the Philco men of this group start to work when the initially conceived idea on a new product has been established. The products at that time are engineering proto-

types that would curl your hair. As an interesting sidelight, other branches of this department are located in different parts of the country where heat and humidity are at their very worst and where similar tests are conducted under actual weather conditions.

Occasionally, when a product already in the field runs into difficulty, Howard and his boys are called in for a little detective work. Again the mission is evaluation to determine whether a fix can be accomplished or if a design change is in order.

At the end of our tour we were completely impressed by the under-

AWARD PARADE GOES ON



Little Rock, Ark.—Top photo shows second year PFSS Achievement Plaque awardees during visit of Russ Oliver, General Manager, Philco Service Division, to Arkansas Radio & Appliance Co., Philco Distributor sponsoring the Awards. Left to right: Mr. Oliver, Calvin Martin, Little Rock, Ark.; J. E. Clifford, Pine Bluff, Ark.; Cotton Golden, Malvern, Ark.; Calvin Garrett, Benton, Ark.; James Shell, Pine Bluff, Ark.; and Dick Hammil, Arkansas Radio & Appliance.



Bottom photo . . . Mr. Oliver presents coveted National Distributor Award to John H. Hunt, Jr., President of Arkansas Radio & Appliance, as Dick Hammil looks on.



San Diego, Calif.—Distributor R. E. Harris, Inc., presents First and Second Year Awards. Reading from left to right: Charles Frice, Service Mgr., R. E. Harris, Inc.; Bob Zeller, Service Mgr., Home Appliance Co., Store No. 1; Sid Smith, Service Mgr., Home Appliance Co., Store No. 2; Sterling Haiste, Sales Mgr. Home Appliance Co.; Bob Asher, Owner-Manager, Home Appliance Co.; Bob Harris, Jr., Sales Mgr., R. E. Harris, Inc.; and John McCulley, Sales Representative, R. E. Harris, Inc.



High Fidelity in A Table Phonograph

Since the Philco Model 1347 is the first table model phonograph to incorporate an electrostatic speaker, we thought you would be interested in some of the original developments created by Philco engineers that are being featured in this truly fine high fidelity instrument.

Philco's initial high fidelity contribution was heralded with the introduction of "Phonorama" and the "Acoustic Lens." In addition to the thrill of true high fidelity, Phonorama brought to the listener sound in full dimension. The exclusive Philco acoustic lens set the pace for further Philco high fidelity developments. Philco engineers realized that the achievement of life-like sound was only the beginning, and that the even distribution of that sound within the listening area was just as important.

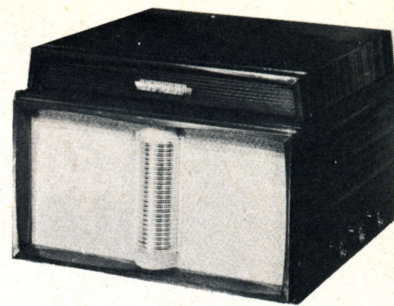
Fine electronic components alone will not assure true high fidelity performance in a table model or any other unit, since the end effect of high fidelity reproduction is dependent to a large extent upon the quality of the enclosure. A pickup can only convert mechanical energy in the form of needle vibrations in the record grooves into electrical energy . . . and the speaker will convert the amplified electrical energy back into mechanical energy or sound. It remains for the cabinet, or enclosure to fortify and

direct sound, so that concert hall quality and even distribution will result.

This last function is difficult to achieve in a table cabinet because it has a sound chamber much smaller than a console unit.

Philco engineers have taken the same exacting care in the acoustic design of the 1347 cabinet that made Phonorama famous. Many additional new advancements in the reproduction of sound are featured in this table model, which, for the first time, provides high priced console tone in a small package. It is interesting to note at this point that the end result, Model 1347, is actually *smaller* than most ordinary table phonographs, fitting on a standard 18" end table with plenty of room to spare.

The first advance came with the development of Philco's exclusive electrostatic speaker . . . a colonnade type speaker requiring no enclosure. Thus, no sound chamber had to be designed within the cabinet for high frequencies . . . cymbals, piccolo, or violin. A special circuit is employed to pick only the "highs" from the amplifier and send them direct to the electrostatic speaker. This is the finest high frequency "tweeter" in the world, reproducing up to 20,000 cycles per second without audible distortion and distributing that sound in a full 180° arc.



Next, to insure accurate reproduction of middle and low frequencies, the engineers had to solve the problem of cabinet resonance. In other words, every cabinet is affected by a certain frequency of sound usually in the middle range. When this frequency occurs in a record, the cabinet will vibrate with the sound. The result is an undesirable form of distortion, sometimes referred to as "boominess."

Philco engineers first determined the resonant frequency affecting the 1347 cabinet. They then designed a "boom-gate," to absorb the resonance caused by that particular frequency, and therefore, prevent the cabinet from resounding.

"Highs" are crisp and "alive" through the electrostatic speaker . . . "lows" have added body and impressiveness with the Philco designed cabinet and 8" "woofers" speaker, and distortion is overcome with the Philco "boom-gate."

The Philco Model 1347 delivers performance never before obtainable in a table phonograph.

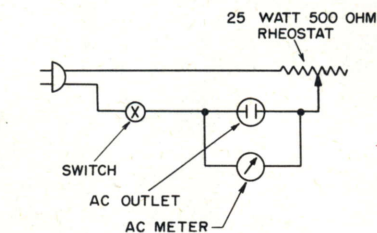
10 DOLLAR AWARD!

J. B. McCulloch of Mac's Radio, 3449 Woodward Avenue, Detroit, Mich., is our first 1955 idea award winner with a good kink for reducing time in servicing AC-DC portables. We'll let "Mac" tell it in his own words:

"Here is my pet routine for fixing the battery of 115 Volt sets that cuts off.

"Object: to control line voltage to show results of a replacement.

"Plug set in socket and reduce voltage until the set cuts. Note the meter reading at this point. Replace mixer tube and repeat. Unless the difference is more than a volt or two, the replacement will



not be necessary.

"The next try is the rectifier. If selenium, it can be clipped in with the test leads. This will only take a few minutes and the results are positive. Nine out of ten of these sets can be fixed this way and you will know that they are really fixed."

In selecting this idea for publication, our Home Radio Service Department came up with the following additional recommendations:

It is recommended that the rectifier check be made before the gadget is used since leaky or shorted filters and by-passes can cause the set to draw in excess of 25 watts (the rating of the 500 ohm rheostat). Just a check of the B+ at the output tube screen or plate will indicate any leakage. If voltage is low the selenium or condensers can be at fault. Jumping in another selenium without first checking for leakage can wreck the new rectifier. Possible shorts or high leakage should always be checked before replacing a rectifier of either the selenium or tube type. Many new rectifiers have been damaged because this was not done by the service man.